Microporous Ceramic Atomizing Core and Method for Preparing Same

FIELD

[0001] The invention relates to the technical field of atomization, in particular to a microporous ceramic atomizing core and a method for preparing the microporous ceramic atomizing core.

BACKGROUND

[0002] Ceramic atomizing core is the core component in the atomization field such as electronic cigarette, with the development of the field, people's requirements for ceramic atomizing core is not only atomization, its atomizing effect has also become an important indicator to evaluate the atomizing core.

[0003] The current ceramic atomizing core has major problems such as large atomized particles, leakage of liquid during use or delivery, and shrinkage and deformation of the atomizing core due to high-temperature sintering, which greatly limits the development of ceramic atomizing core.

SUMMARY

[0004] The technical issue to be addressed by the invention is to provide a microporous ceramic atomizing core with high porosity and improved atomization effect, and a method for preparing the microporous ceramic atomizing core.

[0005] The technical solution adopted by the invention to solve the above technical issue is to provide a microporous ceramic atomizing core including raw materials in parts by mass as follows: 10 to 50 parts by mass of main material, 0 to 40 parts by mass of ceramic powder, 10 to 50 parts by mass of sintering aid, 0 to 20 parts by mass of pore-forming agent, 20 to 50 parts by mass of paraffin, and 0.1 to 2.0 parts by mass of surfactant;

[0006] Wherein the main material includes at least one of diatomite, silicon dioxide aerogel powder and porous boron nitride, and the main material has a particle size of 200 mesh- 1500 mesh.

BRIEF DESCRIPTION OF THE DRAWINGS

[0019] The present invention will be further described in the following, in conjunction with the accompanying drawings and embodiments. In the drawings:

[0020] FIG. 1 is a SEM image of the diatomite of the present invention;

[0021] FIG. 2 is a SEM image of the microporous ceramic atomizing core of the present invention.

DETAILED DESCRIPTION

[0022] For a better understanding of the technical features, purposes and effects of the invention, the specific implementations of the invention are described in detail with reference to the accompanying drawings.

[0023] The microporous ceramic atomizing core of the present invention includes raw materials in parts by mass as follows: 10 to 50 parts by mass of main material, 0 to 40 parts by mass of ceramic powder, 10 to 50 parts by mass of sintering aid, 0 to 20 parts by mass of pore-forming agent, 20 to 50 parts by mass of paraffin, and 0.1 to 2.0 parts by mass of surfactant.

[0024] The main material is a material with micropores and a high specific surface area, which may improve the liquid locking effect and make the atomized particles fine in the atomizing core. The main material includes at least one of diatomite, silicon dioxide aerogel powder and porous boron nitride, and the main material has a particle size of 200 mesh- 1500 mesh.

[0025] Among the main materials, diatomite, the main component of which is silicate, has countless micropores on its surface, which has the advantages of strong adsorption performance, light volumetric weight, uniform fineness, neutral pH value and non-toxicity, and good mixing uniformity. The SEM image of diatomite is shown in Fig. 1, and from the microscopic morphology characterization of diatomite powder particles shown in the figure, it can be seen that diatomite is distributed with uniform micropores and has a large specific surface area.

[0026] Silicon dioxide aerogel powder is an aerogel material with low density, low thermal conductivity, high specific surface area and high adsorption performance prepared by atmospheric drying method. Porous boron nitride is a new type of non-oxide porous material,