Amendments to the Claims

The following Listing of Claims replaces all prior versions and listings of claims.

Listing of Claims:

1. (Currently Amended) A method for producing particles, comprising:

mixing a first substance containing ~~phosphorus~~ at least either one phosphorus oxide selected from the group consisting of phosphorus suboxide, diphosphorus trioxide, diphosphorus tetroxide, and diphosphorus pentoxide, or triethyl phosphate and a second substance containing calcium in a solvent to react the first substance with the second substance to thereby obtain a slurry in a gelled liquid state;

feeding droplets of ~~a liquid~~ the slurry containing an amorphous reaction product obtained from a reaction between the first substance and the second substance in a heated atmosphere to bring the amorphous reaction product into a gaseous state; and

crystallizing the amorphous reaction product in the gaseous state to obtain particles mainly composed of a calcium phosphate-based compound.

2. (Canceled)

3. (Original) The method for producing particles as claimed in claim 1, wherein the second substance contains as a main ingredient, at least either calcium alkoxide or calcium salt.

4. (Original) The method for producing particles as claimed in claim 1, wherein the amount of impurities contained in the calcium phosphate-based compound is 5 wt% or less.

5. (Original) The method for producing particles as claimed in claim 4, wherein the impurities mainly contain at least either a by-product other than the reaction product or a decomposition product of the calcium phosphate-based compound.

6. (Original) The method for producing particles as claimed in claim 1, wherein the heated atmosphere contains plasma produced by ionization of an ambient gas.

7. (Original) The method for producing particles as claimed in claim 6, wherein the temperature of the plasma is in the range of 2,000 to 15,000 °C.

8. (Original) The method for producing particles as claimed in claim 1, wherein the crystallizing step further comprises the step of forcibly cooling the reaction product in the gaseous state.

9. (Original) The method for producing particles as claimed in claim 1, wherein the particles are substantially spherical in shape.

10. (Original) The method for producing particles as claimed in claim 9, wherein the average particle diameter of the spherical particles is in the range of 5 to 300 nm.

11. (Original) The method for producing particles as claimed in claim 1, wherein the calcium phosphate-based compound is hydroxyapatite or tricalcium phosphate.

12. (Original) Particles produced by the method for producing particles as claimed in claim 1.

13. (Withdrawn) Particles mainly composed of a crystalline calcium phosphate-based compound, which have an average particle diameter of 5 to 300 nm and an average roundness coefficient C represented by the following formula (I) of 0.8 to 0.99:

$$C= 4\pi S/L^2 \cdots (I)$$

where S (nm^2) represents an area of a projection image of a particle as a measuring object, and L (nm) represents a circumferential length of the projection image of the particle as a measuring object.

14. (Withdrawn) The particles as claimed in claim 12, which contain hollow particles in the proportion of 5 to 40 %.

15. (Withdrawn) The particles as claimed in claim 13, which contain hollow particles in the proportion of 5 to 40 %.

16. (Withdrawn) A sintered body obtained by sintering a molded body of the particles as claimed in claim 12.

17. (Withdrawn) A sintered body obtained by sintering a molded body of the particles as claimed in claim 13.

18. (Previously Presented) The method according to claim 1, wherein ~~the first substrate contains as a main ingredient at least one selected from diphosphorus pentoxide and triethyl phosphate, and~~ the second substance contains ~~as a main ingredient at least one selected from~~ calcium nitrate tetrahydrate ~~and calcium ethoxide~~.

19. (New) The method according to claim 1, wherein the solvent contains at least one alcohol selected from the group consisting of methanol, ethanol, propanol, and butanol.