CLAIMS

1. A method for manufacturing a water absorption treatment material made of a plurality of grains, comprising:

a preparing step of preparing a paper powder to which water-absorbent polymers adhere, the paper powder being derived from a sanitary product;

a first pulverizing step of pulverizing remaining polymers that are the water-absorbent polymers remaining on the paper powder prepared in the preparing step, using a first pulverizer;

a core portion forming step of forming a granular core portion constituting each of the grains; and

a coating portion forming step of forming a coating portion so as to cover the core portion, the coating portion containing the paper powder, and the remaining polymers pulverized in the first pulverizing step,

wherein the remaining polymers that are pulverized in the first pulverizing step are the water-absorbent polymers adhering to the paper powder immediately before the first pulverizing step is performed,

in the first pulverizing step, the remaining polymers left in a state of adhering to the paper powder are subjected to the first pulverizer, thereby reducing a particle size of the remaining polymers, and

the paper powder that is used for forming the coating portion in the coating portion forming step is the paper powder subjected to the first pulverizer in the first pulverizing step.

2. The method for manufacturing a water absorption treatment material according to claim 1,

wherein, in the first pulverizing step, the remaining polymers are pulverized such that an average particle size of the remaining polymers is 1/2

or less of an average particle size of the remaining polymers immediately before being subjected to the first pulverizer.

3. The method for manufacturing a water absorption treatment material according to claim 2,

wherein, in the first pulverizing step, the remaining polymers are pulverized such that the average particle size of the remaining polymers is 1/4 or less of the average particle size of the remaining polymers immediately before being subjected to the first pulverizer.

4. The method for manufacturing a water absorption treatment material according to any one of claims 1 to 3,

wherein, in the first pulverizing step, the remaining polymers are pulverized such that an average particle size of the remaining polymers is 50 μm or less.

5. The method for manufacturing a water absorption treatment material according to claim 4,

wherein, in the first pulverizing step, the remaining polymers are pulverized such that the average particle size of the remaining polymers is 25 μm or less.

6. The method for manufacturing a water absorption treatment material according to any one of claims 1 to 5,

wherein the first pulverizer is a fine pulverizer.

7. The method for manufacturing a water absorption treatment material according to claim 6,

wherein the first pulverizer is a jet mill or a turbo mill.

8. The method for manufacturing a water absorption treatment material according to any one of claims 1 to 7, further comprising a separating step of separating part of the water-absorbent polymers adhering to the paper powder, from the paper powder, before the first pulverizing step.

9. The method for manufacturing a water absorption treatment material according to claim 8, further comprising a second pulverizing step of pulverizing separated polymers that are the water-absorbent polymers separated from the paper powder in the separating step, using a second pulverizer,

wherein in the coating portion forming step, the coating portion containing the separated polymers pulverized in the second pulverizing step, in addition to the paper powder and the remaining polymers, is formed.

10. The method for manufacturing a water absorption treatment material according to claim 9, further comprising a mixing step of mixing the remaining polymers pulverized in the first pulverizing step and the separated polymers pulverized in the second pulverizing step, thereby obtaining a coating material for constituting the coating portion, before the coating portion forming step.

11. The method for manufacturing a water absorption treatment material according to claim 10,

wherein, in the mixing step, the remaining polymers and the separated polymers are mixed such that a weight ratio of the separated polymers in the coating material is smaller than a weight ratio of the remaining polymers in the coating material.

12. The method for manufacturing a water absorption treatment material according to claim 11,

wherein, in the mixing step, the remaining polymers and the separated polymers are mixed such that the weight ratio of the separated polymers in the coating material is 1/2 or less of the weight ratio of the remaining polymers in the coating material.

13. The method for manufacturing a water absorption treatment material according to any one of claims 9 to 12,

wherein, in the first pulverizing step, the remaining polymers are pulverized such that an average particle size of the remaining polymers is between 80% and 120% inclusive of an average particle size of the separated polymers pulverized in the second pulverizing step.

14. The method for manufacturing a water absorption treatment material according to any one of claims 9 to 13,

wherein the second pulverizer is a fine pulverizer.

15. The method for manufacturing a water absorption treatment material according to claim 14,

wherein the second pulverizer is a jet mill or a turbo mill.

16. The method for manufacturing a water absorption treatment material according to claim 14 or 15,

wherein one fine pulverizer is shared as the first and second pulverizers respectively in the first and second pulverizing steps.

17. The method for manufacturing a water absorption treatment material according to any one of claims 1 to 16,

wherein, in the preparing step, a paper powder generated when producing the sanitary product is prepared as the paper powder.

18. The method for manufacturing a water absorption treatment material according to any one of claims 1 to 17,

wherein the sanitary product is a paper diaper, a sanitary napkin, or an incontinence pad.