A method of manufacturing multi-functional yarn fiber material by mixing silver ion in the range of from wt. 5% to wt. 15% and functional powder in the range of from wt. 85% to wt. 95% is provided. The functional powder is one of coconut shell charcoal powder, bamboo charcoal powder, germanium powder, titanium dioxide powder, and aluminum oxide powder so as to produce the material which is applied in many purposes such as germproof, deodorization, producing far infrared ray and anion, balancing ion, anti-ultraviolet ray, cool, and comfort.
1. Mixing silver ion and functional powder to form a mixed base.
2. Mixing the mixed base and dispersant.
3. Grinding with water.
4. Drying.
5. Grinding with a grinder.
6. Adding chemical fiber material.
7. Heating, mixing, pressing, and cutting to form pellets.
METHOD OF MANUFACTURING MULTI-FUNCTIONAL YARN FIBER MATERIAL

BACKGROUND OF THE INVENTION

[0001] Field of the Invention
[0002] The present invention relates to a method of manufacturing multi-functional yarn fiber material which is provided by mixing silver ion and functional powder to produce a multi-functional product.
[0003] Description of the Prior Art
[0004] Traditional fibers on the market today are mostly used on clothes, clothes, bedding or any other fiber product which provides warm and comfort functions. However, these products may easily be contaminated with germs to affect our health. A germproof nanometer yarn and method is taught in Taiwanese Patent Publication No. 200504262, which provides a nanometer silver particle having a diameter about 1 to 100 nm attached to a yarn. The yarn is made of cotton, flax, silk, fleece, leather, blend fabric or synthetic fiber material which is used to make clothes, cloth or any such product.
[0005] Another method of manufacturing nanometer silver fiber as taught in Taiwanese Patent No. 1283717, which dilutes dispersant with organic solvent to form a solution, adds with silver salt compound in the solution, adds with reductant in the solution, mixes the solution to form nanometer silver solution, which is then mixed with resin to produce nanometer silver fiber which is able to prevent germ. However, this product does not have any other function.

SUMMARY OF THE INVENTION

[0006] According to the present invention, there is provided a method of manufacturing multi-functional yarn fiber material comprising the steps of:
A: mixing silver ion in the range of from wt. 5% to wt. 15% and functional powder in the range of from wt. 85% to wt. 95% to form a mixed base, wherein the functional powder is one of coconut shell charcoal powder, bamboo charcoal powder, germanium powder, titanium dioxide powder, and aluminum oxide powder;
B: mixing the mixed base in the range of from wt. 39% to wt. 94.7% and dispersant in the range of wt. 5% to wt. 50%;
C: grinding with water for 10 to 20 hours, wherein the silver ion is ground in a size smaller than 800 nanometer;
D: drying;
E: grinding with a grinder;
F: adding chemical fiber material in the range of from wt. 0.3% to wt. 2%, and
G: heating, mixing, pressing and cutting to form pellets.

Preferably, said dispersant is polyether.
Preferably, said chemical fiber material is one of polyester, polyamide, polypropylene, acrylic, and rayon.

It is the primary object of the present invention to provide a method of manufacturing multi-functional yarn fiber material, which is applied in many purposes such as germ proof, deodorization, and producing far infrared ray and anion.

It is another object of the present invention to provide a method of manufacturing multi-functional yarn fiber material, which provides functional powder which may be one of coconut shell charcoal powder, bamboo charcoal powder, germanium powder, titanium dioxide powder, and aluminum oxide powder to produce a product with far infrared ray, anion, ion balancing, anti-ultraviolet rays, and comfort.

BRIEF DESCRIPTION OF THE INVENTION

[0011] The FIGURE is a flow chart of the present invention.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0012] As shown in the FIGURE, a method of manufacturing multi-functional yarn fiber material comprises the steps of:
A: mixing silver ion in the range of from wt. 5% to wt. 15% and functional powder in the range of from wt. 85% to wt. 95% to form a mixed base, wherein the functional powder may be coconut shell charcoal powder;
B: mixing the mixed base in the range of from wt. 39% to wt. 94.7% and dispersant in the range of wt. 5% to wt. 59%, wherein the dispersant may be polyether;
C: grinding with water for 10 to 20 hours, wherein the silver ion is ground in a size smaller than 800 nanometer;
D: drying;
E: grinding with a grinder;
F: adding chemical fiber material in the range of from wt. 0.3% to wt. 2%, wherein the chemical fiber material is one of polyester, polyamide, polypropylene, acrylic, and rayon; and
G: heating, mixing, pressing and cutting to form pellets for manufacturing yarn fiber to produce cloth, clothes, bedding, etc.

[0013] The silver ion in the material is able to function as germproof and deodorization. The functional powder made of coconut shell charcoal powder is able to produce far infrared ray and anion.

[0014] The functional powder may be bamboo charcoal powder which is able to produce far infrared ray and anion.

[0015] The functional powder may be germanium powder which is able to produce anion to balance ion.

[0016] The functional powder may be titanium dioxide powder which is capable of anti-ultraviolet rays.

[0017] The functional powder may be aluminum oxide powder which produces cool and comfort functions.

1. claim:
A method of manufacturing multi-functional yarn fiber material comprising the steps of:
A: mixing silver ion in the range of from wt. 5% to wt. 15% and functional powder in the range of from wt. 85% to wt. 95% to form a mixed base, wherein the functional powder is one of coconut shell charcoal powder, bamboo charcoal powder, germanium powder, titanium dioxide powder, and aluminum oxide powder;
B: mixing the mixed base in the range of from wt. 39% to wt. 94.7% and dispersant in the range of wt. 5% to wt. 59%;
C: grinding with water for 10 to 20 hours, wherein the silver ion is ground in a size smaller than 800 nanometer;
D: drying;
E: grinding with a grinder;
F: adding chemical fiber material in the range of from wt. 0.3% to wt. 2%, and
G: heating, mixing, pressing and cutting to form pellets.

Preferably, said dispersant is polyether.

Preferably, said chemical fiber material is one of polyester, polyamide, polypropylene, acrylic, and rayon.

It is the primary object of the present invention to provide a method of manufacturing multi-functional yarn fiber material, which is applied in many purposes such as germ proof, deodorization, and producing far infrared ray and anion.

It is another object of the present invention to provide a method of manufacturing multi-functional yarn fiber material, which provides functional powder which may be one of coconut shell charcoal powder, bamboo charcoal powder, germanium powder, titanium dioxide powder, and aluminum oxide powder to produce a product with far infrared ray, anion, ion balancing, anti-ultraviolet rays, and comfort.

* * * * *