

Claims

1. An antimicrobial air-permeable substrate in the range 5 gsm to 500 gsm comprising a dry powder with a maximum particle size of 500 μm in the amount of at least 20 % w/w.
2. The antimicrobial air-permeable substrate according to claim 1 wherein the substrate is a fibrous material such as a non-woven material.
3. The antimicrobial air-permeable substrate according to claim 1 or claim 2 wherein the substrate comprises polypropylene fibres.
4. The antimicrobial air-permeable substrate according to any preceding claim wherein the substrate comprises polypropylene fibres that have been carded and/or thermo-bonded to create a non-woven fabric.
5. The antimicrobial air-permeable substrate according to any preceding claim wherein the dry powder is a salt, for example NaCl.
6. The antimicrobial air-permeable substrate according to any preceding claim wherein the dry powder is a blend of two or more dry powders.
7. The antimicrobial air-permeable substrate according to claim 6 wherein the blend of two or more dry powders is a blend of NaCl and NaHCO_3 .
8. The antimicrobial air-permeable substrate according to claim 7 wherein the ratio of NaHCO_3 to NaCl does not exceed 1:9.
9. The antimicrobial air-permeable substrate according to any preceding claim wherein the substrate is joined to or collocated next to at least one layer of a substrate that does not have the dry powder.
10. The antimicrobial air-permeable substrate according to any preceding claim wherein the substrate is a non-woven material with a density in the range 15 to 30 gsm, the maximum particle size is not more than 110 μm and the dry powder is present in the amount of at least 30 % w/w.
11. The antimicrobial air-permeable substrate according to any preceding claim wherein the substrate has undergone particle encasement.
12. The antimicrobial air-permeable substrate according to any preceding claim wherein the substrate comprises compartments.
13. The antimicrobial air-permeable substrate according to claim 12 wherein the compartments are hexagonal.
14. A multi-layered material comprising at least one layer of the substrate according to any preceding claim.

15. Use of the antimicrobial air-permeable substrate according to one of claims 1 to 13 or the multi-layered material according to claim 14 to kill, denature or otherwise deactivate a microorganism.