CLAIMS

1. A process for preparing carrier particles for a dry powder formulation for inhalation comprising i) a fraction of co-micronized particles made of a mixture of an excipient and an additive, the mixture having a mass median diameter (MMD) lower than 20 micron; ii) a fraction of coarse excipient particles having a MMD equal to or higher than 80 micron, said process comprising the following steps:

a) co-micronizing the excipient particles and additive particles;

b) adding and mixing the obtained co-micronized particles with the coarse excipient particles;

characterized in that the co-micronized particles of step a) are first conditioned by exposure to a relative humidity of 50-75% at 22 ± 2 °C for a time comprised between 24 and 60 hours.

2. The process according to claim 1, wherein the co-micronized particles are conditioned for a time of 48 hours.

3. The process according to claim 1 or 2, wherein the additive is magnesium stearate.

4. The process according to any one of claims 1 to 3, wherein the excipient is alpha-lactose monohydrate.

5. The process according to any one of the preceding claims, wherein the mass diameter of the coarse excipient particles is comprised between 212 and 355 micron.

6. A process for preparing a dry powder formulation for inhalation comprising the step of mixing the carrier particles according to any one of the preceding claims with one or more active ingredients.

7. The process according to claim 6 wherein the active ingredient is selected from the group consisting of β2-adrenoceptor agonist, a corticosteroid, an anti-cholinergic alone or in any combination thereof.

8. The process according to claim 7, wherein the active ingredient is a β2-adrenoceptor agonist selected from the group consisting of salbutamol, terbutaline, fenoterol, salmeterol, formoterol, indacaterol, vilanterol, and milveterol.

9. The process according to claim 7, wherein the active ingredient is a corticosteroid selected from the group consisting of budesonide, fluticasone propionate, fluticasone furoate, mometasone furoate, beclomethasone dipropionate and ciclesonide.

10. The process according to claim 7, wherein the active ingredient is an anti-cholinergic bronchodilator selected from the group consisting of, ipratropium bromide, tiotropium bromide, oxitropium bromide, and glycopyrronium bromide.

11. The process according to claim 7, wherein the β2-adrenoceptor agonist is formoterol fumarate dihydrate, the corticosteroid is beclomethasone dipropionate, and the anti-cholinergic is glycopyrronium bromide or tiotropium bromide.

~~12. A mixture of co-micronised particles made of an excipient and an additive for use in a dry powder formulation for inhalation, said mixture having a mass charge density comprised between -9×10^{-10} and -5×10^{-8} nC/g, said mixture being obtainable by a process which comprises conditioning by exposure to a relative humidity of 50-75% at 22 ± 2 °C for a time comprised between 24 and 60 hours.~~

~~13. The mixture according to claim 12, wherein the additive is magnesium stearate.~~

~~14. A dry powder formulation for inhalation comprising the mixture of co-micronised particles of claim 12 or 13, and one or more active ingredients.~~

~~15. A dry powder inhaler filled with the dry powder formulation of claim 14.~~

~~16. The mixture of co-micronised particles of claim 12 or 13 as an excipient for a medicament for the prophylaxis and/or treatment of a pulmonary disease, preferably, asthma or chronic obstructive pulmonary disease (COPD).~~

~~17. Use of a mixture of co-micronised particles of claim 12 or 13 for the preparation of a medicament for the prophylaxis and/or treatment of a pulmonary disease.~~

~~18. The use according to claim 17, wherein the pulmonary disease is asthma or chronic obstructive pulmonary disease (COPD).~~