Tableting of specific polymer stabilizers

Abstract

The invention relates to a method for manufacturing a tablet, which comprises the steps of

(A) filling a starting material, which is in a solid form, in a first open cavity, which is formed by a first punch and a die, to obtain a second open cavity, which is filled at least partly with the starting material,

(B) closing the second open cavity by a second punch to obtain a first closed cavity,

(C) compressing the starting material at a compression temperature below 37°C by moving at least one out of the first punch and the second punch to obtain a second closed cavity, which has a smaller volume than the first closed cavity, which results in formation of a trapped tablet of the starting material in the second closed cavity,

(D) removing the trapped tablet to obtain the tablet, which has a tablet temperature below 37°C directly after removal,

wherein the starting material is solid at 37 °C and 101.32 KPa and consists out of

(i) 60 to 100 wt.% of a first polymer stabilizer selected from a list of several members,

(ii) 0 to 40 wt.% of a second polymer stabilizer, which is Zn-, Ca- or Mg-stearate,

(iii) 0 to 34 wt.% of a third polymer stabilizer, which is zinc oxide, hydrotalcite or sodium benzoate,

(iv) 0 to 20 wt.% of a further ingredient, which is different to the first polymer stabilizer, the second polymer stabilizer and the third polymer stabilizer,

wherein the sum of components (i), (ii), (iii) and (iv) is 100 wt.%, and

the tablet has a weight above 20 mg and below 330 mg and a cross-section dimension above 3 mm and below 18 mm. Furthermore, a method for stabilizing a polymer, which is a polyolefin, a polystyrene or a mixture thereof, is disclosed, which comprises the dosing of the tablet to the polymer. The tablet manufactured according to the method of the present invention and the tablet polymer mixture are subject matter of the invention, as well as it’s use for a dust-free handling of its components at manufacturing of the stabilized polymer.

(No suitable figure)