Claims

1. A process for producing a particulate composition comprising crystalline α,α-trehalose dihydrate with an α,α-trehalose content of 98.0% by weight or more, on a dry solid basis, and a degree of crystallinity for crystalline α,α-trehalose dihydrate of 90.0% or higher, when calculated based on its powder X-ray diffraction profile, from a saccharide solution with an α,α-trehalose content of over 86.0% by weight, on a dry solid basis, said process comprising the step of precipitating crystalline by a controlled cooling method or semi-controlled cooling method;

wherein said controlled cooling method is a cooling method, where the liquid temperature “T” at the time “t” is basically expressed by the formula:

$$T = T_0 - (T_0 - T_f)\cdot(t/\tau)^3,$$

wherein "τ" is the operation time established for a crystallization step, "T_0" is the liquid temperature at the initiation of crystallization, "T_f" is the targeted liquid temperature at the termination of crystallization; and

wherein said semi-controlled cooling method is a cooling method, where the liquid temperature "T" is allowed to linearly or stepwisely decrease against the time "t" in order to keep the variation ($T_0 - T_m$) of the liquid temperature "T" at the point of "$t=\tau/2$" to be at least 5% but less than 30% of the total temperature change ($T_0 - T_f$), wherein "T_m" is the liquid temperature at time "$t=\tau/2$".