

Title (en)
PROCESS FOR ENHANCING YIELD DURING THE MANUFACTURE OF LACTOSE (I)

Title (de)
VERFAHREN ZUR STEIGERUNG DER AUSBEUTE BEI DER LACTOSEHERSTELLUNG (I)

Title (fr)
PROCÉDÉ D'AUGMENTATION DU RENDEMENT POUR LA FABRICATION DE LACTOSE (I)

Publication
EP 2743356 A1 20140618 (DE)

Application
EP 12196712 A 20121212

Priority
EP 12196712 A 20121212

Abstract (en)
Improving the yield during the production of crystalline alpha -lactose, comprises: (a) adjusting an aqueous lactose solution to a temperature of 62-67[deg] C; (b) cooling the solution to 20-30[deg] C; (c) maintaining the solution at this temperature for a period of 0.5-5 hours; (d) subsequently re-heating the solution to 35-40[deg] C; (e) maintaining the solution at this temperature for a period of 0.5-5 hours; (f) subsequently cooling the solution to 10[deg] C; and (g) optionally separating the precipitated alpha -lactose crystals from the mother liquor. Independent claims are also included for: (1) mother liquor comprising 15-20 wt.% alpha -lactose; and (2) producing crystalline alpha -lactose, comprising (i) subjecting whey to a separation process in which a protein-rich and a lactose-rich fraction is obtained, (ii) subjecting the lactose-rich fraction (optionally after concentrating the main flow) to demineralization in which slowly soluble salts are precipitated, (iii) cooling the demineralized residue, optionally after further evaporation, until lactose precipitates are in crystalline form, (iv) separating the lactose crystals from the mother liquor and evaporating, and further adjusting the first mother liquor to a temperature of 62-67[deg] C, cooling the solution to 20-30[deg] C, maintaining the solution at this temperature for a period of 0.5-5 hours, subsequently re-heating the solution to 35-40[deg] C, maintaining the solution at this temperature for a period of 0.5-5 hours, subsequently cooling the solution to 10[deg] C, and optionally separating the precipitated alpha -lactose crystals from the second mother liquor.

Abstract (de)
Vorgeschlagen wird ein Verfahren zur Verbesserung der Ausbeute bei der Herstellung von kristalliner alpha-Lactose, bei dem man (a) eine wässrige Lactoselösung auf eine Temperatur von etwa 62 bis 67 °C einstellt, (b) die Lösung bis auf etwa 20 bis 30 °C abkühlt, (c) die Lösung bei dieser Temperatur für 0,5 bis 5 h hält, (d) anschließend die Lösung wieder bis auf etwa 35 bis 40 °C erwärmt, (e) die Lösung bei dieser Temperatur für 0,5 bis 5 h hält, (f) anschließend die Lösung bis auf etwa 10 °C abkühlt und (g) abschließend die ausgefallenen alpha-Lactosekristalle von der Mutterlauge abtrennt.

IPC 8 full level
C13B 20/16 (2011.01); **C13K 5/00** (2006.01)

CPC (source: EP US)
C13B 20/16 (2013.01 - EP US); **C13K 5/00** (2013.01 - EP US)

Citation (applicant)
• WO 0250089 A1 20020627 - FOOD SCIENCE AUSTRALIA [AU], et al
• US 4202909 A 19800513 - PEDERSON HAROLD T JR [US]
• GB 1575089 A 19800917 - PATENT TECHNOLOGY

Citation (search report)
• [A] WO 2012047122 A1 20120412 - STYLES ANTHONY JAMES [NZ], et al
• [A] EP 0311977 A2 19890419 - VALIO MEIJERIEN [FI]
• [A] DE 4113836 A1 19920109 - KALI CHEMIE AG [DE]

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