

Title (en)

Biodegradable filament nonwoven fabric and method of producing the same

Title (de)

Vliesstoff aus biologisch abbaubaren Filamentfäden und Verfahren zu seiner Herstellung

Title (fr)

Tissu non-tissé à base de filaments biodégradables et méthode de fabrication

Publication

EP 1057915 A1 20001206 (EN)

Application

EP 99110694 A 19990602

Priority

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Abstract (en)

A biodegradable filament nonwoven fabric is provided which is composed of filaments of a polylactic acid based polymer. The polylactic acid based polymer is selected from the group consisting of poly-D-lactic acid, poly-L-lactic acid, copolymers of D-lactic acid and L-lactic acid, copolymers of D-lactic acid and a hydroxycarboxylic acid, copolymers of L-lactic acid and a hydroxycarboxylic acid, and copolymers of D-lactic acid, L-lactic acid and a hydroxycarboxylic acid, which have melting points of not lower than 100 DEG C, and blends of any of these polymers which have melting points of not lower than 100 DEG C. The filaments of the polylactic acid based polymer have a birefringence of 10×10^{-3} to 25×10^{-3} , a degree of crystallinity of 12 to 30wt%, and a crystal size of not greater than 80 ÅNGSTROM as measured axially of the filaments. The nonwoven fabric has a boiling water shrinkage percentage of not higher than 15%.

IPC 1-7

D04H 1/42; **D04H 1/48**; **D04H 1/54**; **D04H 3/14**; **D04H 3/16**; **D01F 6/62**

IPC 8 full level

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CPC (source: EP US)

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Citation (search report)

- [AX] EP 0765959 A1 19970402 - UNITIKA LTD [JP]
- [A] WO 9850611 A1 19981112 - CARGILL INC [US]
- [A] EP 0597427 A1 19940518 - MITSUI TOATSU CHEMICALS [JP]
- [A] MATSUL M: "BIODEGRADABLE FIBERS MADE OF POLY-LACTIC ACID", CHEMICAL FIBERS INTERNATIONAL,DE,DEUTSCHER FACHVERLAG, VOL. 46, NR. 5, PAGE(S) 318-319, ISSN: 0340-3343, XP000629741

Cited by

CN108611761A; EP2041346A4; RU2472026C2; CN104674454A; CN106757772A; CN106974768A; CN112899886A; US7700500B2; EP2551394A4; JP2021133319A; WO2021171854A1; WO03014451A1; US7390543B2; US11697896B2; WO2023063075A1; EP1422044A4; CN109804112A; JPWO2018070490A1; EP3527706A4

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