

Title (en)  
METHOD OF MANUFACTURING A NANOCELLULOSE COMPOSITE

Title (de)  
VERFAHREN ZUR HERSTELLUNG EINES NANOCELLULOSE-VERBUNDSTOFFS

Title (fr)  
PROCÉDÉ DE FABRICATION DE COMPOSITE DE NANOCELLULOSE

Publication  
**EP 2928957 A4 20160706 (EN)**

Application  
**EP 13859915 A 20131204**

Priority

- FI 20126269 A 20121204
- US 201261732958 P 20121204
- FI 2013051139 W 20131204

Abstract (en)  
[origin: WO2014087053A1] Nanocellulose composites and a method of manufacturing nanocellulose composites which comprise nanocellulose material mixed with a polymer. The method comprises the steps of milling in a pearl mill a nanocellulose feedstock in liquid phase to produce a dispersion containing nanocellulose. The liquid phase of the dispersion is formed by a monomer of components of a thermoset resin. By adding a hardener the dispersion is hardened to achieve cross-linking of the polymer to the reinforcing nanocellulose. The composite can be used for high-performance composite applications.

IPC 8 full level  
**C08L 1/02** (2006.01); **C08B 15/10** (2006.01); **C08J 3/24** (2006.01); **C08J 5/24** (2006.01); **C08K 7/02** (2006.01); **D21B 1/16** (2006.01); **D21H 11/18** (2006.01)

CPC (source: EP FI US)  
**C08B 15/10** (2013.01 - EP); **C08J 3/24** (2013.01 - FI); **C08J 5/245** (2021.05 - EP FI US); **C08K 7/02** (2013.01 - EP FI); **C08L 1/02** (2013.01 - EP FI); **C08L 63/00** (2013.01 - FI); **C08L 67/02** (2013.01 - FI); **D21B 1/16** (2013.01 - EP FI); **C08K 2201/011** (2013.01 - EP); **D21H 11/18** (2013.01 - EP)

Citation (search report)

- [X] WO 2011125801 A1 20111013 - MITSUBISHI CHEM CORP [JP], et al
- [X] CA 2812868 A1 20120405 - DAINIPPON INK & CHEMICALS [JP]
- [XD] US 2011274908 A1 20111110 - KOWATA SACHIKO [JP], et al
- [X] WO 2012120971 A1 20120913 - UNIV KYOTO [JP], et al
- [X] JP 2009155384 A 20090716 - MITSUBISHI CHEM CORP
- [X] WO 2011076979 A1 20110630 - MOILANEN PASI [FI], et al
- [A] WO 2012152997 A1 20121115 - UPM KYMMENE CORP [FI], et al
- [XP] WO 2013147062 A1 20131003 - DAINIPPON INK & CHEMICALS [JP]
- See references of WO 2014087053A1

Cited by  
**WO2018146338A1**

Designated contracting state (EPC)  
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DOCDB simple family (application)  
**FI 2013051139 W 20131204**; EP 13859915 A 20131204; FI 20126269 A 20121204