Title (en)

POLYMER COMPOSITIONS AS A BINDER SYSTEM FOR LITHIUM-ION BATTERIES

Title (de)

POLYMERZUSAMMENSETZUNG ALS BINDERSYSTEM FÜR LITHIUMIONENBATTERIEN

Title (fr)

COMPOSITION POLYMÉRIQUE COMME SYSTÈME DE LIANT POUR DES BATTERIES AUX IONS LITHIUM

Publication

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Application

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Priority

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- EP 2015053846 W 20150224

Abstract (en)

[origin: WO2015128328A1] The invention relates to a polymer composition P containing: 100 parts-by-weight of polymer 1, which polymer is at least 50 g/l water-soluble at 25°C and 1 bar, and can be produced via radical-initiated polymerisation of more than 95 wt.% of monomers from the group of acrylic acid, methylacrilic acid, or the esters thereof, acrylonitrile and vinylester, and, optionally, via subsequent alkaline hydrolysis; 10 to 200 parts-by-weight of polymer 2, which polymer is at least 10 g/l water-soluble at 25°C and 1 bar, has a viscosity of a 1 wt.% aqueous solution at 25°C and 1 bar at a shear rate of 10/s > 1.0 Pas, and at a shear rate of 120/s < 0.7 Pas, from the group of polysaccharides, celluloses or the carboxymethyl-, methyl-, hydroxyethyl- or hydroxypropyl derivatives thereof; and 20 to 300 parts-by-weight of polymer 3, which polymer is at least 10 g/l water-soluble at 25 °C and 1 bar, and can be produced via radical-initiated polymerisation of more than 30-95 wt.% of monomer A, from monomers from the group of acrylates or vinyl acetates, and 5-70 wt.% of monomer B of general formula R-CH=CH2, wherein R represents hydrogen, methyl, ethyl, propyl, isopropyl, phenyl or o-tolyl, and optionally, via subsequent alkaline hydrolysis. The invention also relates to: an electrode coating for a lithium-ion battery, containing the polymer composition P; a lithium-ion battery containing the polymer composition P; and the use of the polymer composition P as a binder system for the anode of a lithium-ion battery.

IPC 8 full level

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CPC (source: EP KR US)

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