

Title (en)
POLYMER FILM BASED ON POLYAZOLES, AND USE THEREOF

Title (de)
POLYMERFOLIE AUF BASIS VON POLYAZOLEN UND DEREN VERWENDUNG

Title (fr)
FILM POLYMERE A BASE DE POLYAZOLES ET SON UTILISATION

Publication
EP 1537165 A1 20050608 (DE)

Application
EP 03794875 A 20030814

Priority
• DE 10239701 A 20020829
• EP 0309020 W 20030814

Abstract (en)
[origin: DE10239701A1] Production of proton-conducting polymer membranes comprises (a) producing a mixture of polyphosphoric acid, polyazole(s) and/or compound(s) forming polyazoles on heating in step (b); (b) heating the mixture under inert gas up to 400 degrees C; (c) applying a layer of the mixture from (a) and/or (b) to a substrate; and (d) treating the resultant membrane, the novelty is that (d) uses a hydrolysis liquid comprising phosphorus and/or sulfur oxyacid(s). Independent claims are also included for the following: (1) proton-conducting polymer membrane produced by this process, which has a phosphoric acid concentration not less than 85 wt.% at a breaking stress of not less than 30 kJ/m²; (2) proton-conducting polymer membrane comprising phosphoric acid, polyazole(s) and monomer(s) (I) capable of free radical polymerization and having phosphonic and/or sulfonic acid groups, in which the weight ratio of the sum of phosphoric acid, polyphosphoric acid and polyphosphoric acid hydrolysis products to (I) is at least 1:2.

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IPC 8 full level
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