

Title (en)  
IMPROVED ENZYME THINNED STARCHES

Title (de)  
VERBESSERTE, MIT ENZYM VERFLÜSSIGTE STÄRKE

Title (fr)  
AMIDONS DILUES PAR ENZYME

Publication  
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Application  
**EP 99948077 A 19990831**

Priority  
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• US 9861598 P 19980831

Abstract (en)  
[origin: WO0012746A1] The invention provides a method of preparing a stable enzyme-thinned starch dispersion characterized by a selected degree of thinning including the steps of: (a) combining a derivatized granular starch with an alpha-amylase enzyme to form a starch/enzyme slurry; (b) passing said starch/enzyme slurry through a jet cooker under conditions selected to gelatinize the starch; (c) treating the starch/enzyme slurry to complete gelatinization and achieve the selected degree of thinning such that the concentration of starch hydrolyzate product having a molecular weight greater than 1,000,000 daltons is 5 % or greater; and (d) deactivating the enzyme.

IPC 1-7  
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Citation (search report)  
• [Y] WO 9735068 A1 19970925 - BETZDEARBORN INC [US], et al  
• [Y] EP 0648843 A1 19950419 - TAKARA SHUZO CO [JP]  
• [Y] US 5437169 A 19950801 - MITCHELL WESLEY W [US], et al  
• [Y] WO 9800599 A1 19980108 - HENKEL ECOLAB GMBH & CO OHG [DE], et al  
• [XY] CHENG P ET AL: "Lactic acid production from enzyme-thinned corn starch using Lactobacillus amylovorus", JOURNAL OF INDUSTRIAL MICROBIOLOGY, vol. 7, 1991, pages 27 - 34, XP008028809  
• See references of WO 0012746A1

Cited by  
US11286621B2

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