

Title (en)

METHOD OF PRODUCING DL-ALPHA-TOCOPHEROL OR DL-ALPHA-TOCOPHERYL ACETATE

Title (de)

VERFAHREN ZUR HERSTELLUNG VON DL-ALPHA-TOCOPHEROL ODER DL-ALPHA-TOCOPHERYLACETAT

Title (fr)

PROCEDE DE PREPARATION DE DL-ALPHA-TOCOPHEROL OU DE DL-ALPHA-TOCOPHERYLACETATE

Publication

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Application

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Abstract (en)

[origin: WO9728151A1] A method is disclosed of producing d1- alpha -tocopherol or d1- alpha -tocopheryl acetate by acid catalysed reaction of 2,3,5-trimethyl hydroquinone (TMH) with phytol or isophytol (IP) in a solvent at raised temperature and, where appropriate, subsequent esterification of the tocopherol thus obtained with acetic anhydride. The method is characterised in that the reaction is carried out in an optionally substituted cyclic five-ring carbonate such as 1,2-propylene carbonate, or in an optionally substituted five-ring lactone such as gamma -butyrolactone, as the solvent at temperatures of between 50 and 200 DEG C. The reaction works particularly well if, following the reaction of TMH and phytol or IP, the tocopherol which separates out as an upper phase as the reaction mixture cools and/or the reaction mixture is extracted using a suitable aliphatic hydrocarbon, the tocopherol is isolated by distillation from the extract, and the separated cyclic carbonate or gamma -lactone which can contain excess TMH and acidic catalyst is reused as solvent. In many cases, it has been shown to be advantageous to carry out the reaction of TMH with phytol or IP with removal of the water as azeotrope, using a suitable hydrocarbon and/or in the presence of a mixture of ortho-boric acid with oxalic acid, tartaric acid or citric acid, or alternatively in the presence of BF<sub>3</sub> etherate as the acidic catalyst. Surprisingly, the five-ring carbonates and five-ring lactones prove to have sufficient stability under the reaction conditions and suitable solvent characteristics to permit the process to be carried out continuously.

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