Title (en)

METHOD FOR THE PRODUCTION OF ALDEHYDES AND KETONES BY OXIDISING PRIMARY AND SECONDARY ALCOHOLS WITH ALKYLPHOSPHONIC ACID ANHYDRIDES

Title (de)

VERFAHREN ZUR HERSTELLUNG VON ALDEHYDEN UND KETONEN DURCH OXIDATIONEN VON PRIMÄREN UND SEKUNDÄREN ALKOHOLEN MIT ALKYLPHOSPHONSÄUREANHYDRIDEN

Title (fr)

PROCEDE DE FABRICATION D'ALDEHYDES ET DE CETONES PAR OXYDATION D'ALCOOLS PRIMAIRES ET SECONDAIRES A L'AIDE D'ANHYDRIDES D'ACIDE ALKYLPHOPSPHONIQUE

Publication

EP 1744999 A1 20070124 (DE)

Application

EP 05737845 A 20050418

Priority

• EP 2005004093 W 20050418
• DE 102004020189 A 20040422

Abstract (en)

[origin: WO2005102978A1] The invention relates to a method for the production of a.) aldehydes of formula (II): R_1 CHO and b.) aldehydes of formula (III): R_1 C(O) R_2 by reacting a.) primary alcohols (R_1CH_2-OH) or b.) secondary alcohols (R_1-CH(OH)-R_2) with cyclic phosphonic acid anhydrides in the presence of dialkyl-, diaryl- and/or alkyl-aryl sulphonic oxides at a temperature in the region of between -100 to + 120 DEG C, whereby R_1 and/or R_2 represent H, a substituted linear or branched C1-C12-alkyl radical, a substituted C3-C10 cycloalkyl-, alkenyl-, aryl- or heteroaryl radical. A cyclic phosphonic acid anhydride is used, preferably, as a 2,4,6-substituted 1,3,5,2,4,6-trioxatriphosphinane of formula (I), wherein R' independently represents allyl, aryl or open-chained or branched C1 - C12-alkyl-radicals. Optionally, the reaction can be carried out in the presence of a tertiary amine base NR_53.

IPC 8 full level

C07C 45/29 (2006.01); **C07B 41/06** (2006.01); **C07C 47/21** (2006.01); **C07C 47/54** (2006.01); **C07C 49/10** (2006.01); **C07C 269/06** (2006.01); **C07C 271/22** (2006.01)

CPC (source: EP US)

C07B 41/06 (2013.01 - EP US); **C07C 45/29** (2013.01 - EP US); **C07C 269/06** (2013.01 - EP US)

Citation (search report)

See references of WO 2005102978A1

Cited by

DE102008003677A1

Designated contracting state (EPC)

CH DE FR GB LI

DOCDB simple family (publication)

WO 2005102978 A1 20051103; DE 102004020189 A1 20051117; EP 1744999 A1 20070124; JP 2007533688 A 20071122; US 2007191645 A1 20070816; US 7262328 B1 20070828

DOCDB simple family (application)

EP 2005004093 W 20050418; DE 102004020189 A 20040422; EP 05737845 A 20050418; JP 2007508813 A 20050418; US 59243905 A 20050418