

Title (en)
MICROCAPILLARY REACTOR AND METHOD FOR CONTROLLED MIXING OF NON HOMOGENEOUSLY MIXABLE FLUIDS USING SAID MICROCAPILLARY REACTOR

Title (de)
MIKROKAPILLARREAKTOR UND VERFAHREN ZUM KONTROLLIERTEN VERMENGEN VON NICHT HOMOGEN MISCHBAREN FLUIDEN UNTER VERWENDUNG DIESES MIKROKAPILLARREAKTORS

Title (fr)
REACTEUR MICROCAPILLAIRE ET PROCEDE DE MELANGE CONTROLE DE FLUIDES MISCIBLES DE MANIERE NON HOMOGENE A L'AIDE DE CE REACTEUR MICROCAPILLAIRE

Publication
EP 1796829 A1 20070620 (DE)

Application
EP 05798042 A 20051006

Priority
• DE 2005001783 W 20051006
• DE 102004049730 A 20041011

Abstract (en)
[origin: WO2006039895A1] The invention relates to a microcapillary reactor (1) containing at least one first static mixer, comprising at least one first static mixer (2), comprising at least one first capillary supply line (4) for a first fluid, at least one second capillary supply line for a second fluid which is not substantially homogeneously mixable with the first fluid, wherein the first and second capillary supply lines flow into a region which is the point of departure for at least one transport line, wherein the first (6) and second (8) capillary supply lines are dimensioned in such a way that the first and second fluids can be respectively transported in laminary flow conditions and can be displaced in the form of alternately successive discrete liquid phase sections (plugs). The invention is characterized by at least one second static mixer(1), comprising at least one third supply line (12), particularly a capillary supply line, for a gaseous third fluid which flows into the first capillary transport line (10) downstream from the first mixer (2). The invention also relates to a multi-microcapillary reactor. The invention further relates to a method for controlled mixing of at least two fluids which substantially cannot be mixed in a homogeneous manner and at least one gaseous fluid, using said microcapillary reactor. The inventive method makes it possible to catalytically hydrogenate, for example, unsaturated aldehydes, hydroformulate olefins and homogeneously catalytically oxidize organic compounds.

IPC 8 full level
B01J 19/00 (2006.01); **B01F 13/00** (2006.01); **B01L 3/00** (2006.01)

CPC (source: EP US)
B01F 23/232 (2022.01 - EP US); **B01F 33/3021** (2022.01 - EP US); **B01J 19/0093** (2013.01 - EP US); **B01J 2219/00353** (2013.01 - EP US); **B01J 2219/00479** (2013.01 - EP US); **B01J 2219/00495** (2013.01 - EP US); **B01J 2219/00585** (2013.01 - EP US); **B01J 2219/00596** (2013.01 - EP US); **B01J 2219/00745** (2013.01 - EP US); **B01J 2219/00747** (2013.01 - EP US); **B01J 2219/00783** (2013.01 - EP US); **B01J 2219/00822** (2013.01 - EP US); **B01J 2219/00833** (2013.01 - EP US); **B01J 2219/00835** (2013.01 - EP US); **B01J 2219/0086** (2013.01 - EP US); **B01J 2219/00873** (2013.01 - EP US); **B01J 2219/00889** (2013.01 - EP US); **C40B 30/08** (2013.01 - EP US); **C40B 40/18** (2013.01 - EP US); **C40B 60/14** (2013.01 - EP US)

Citation (search report)
See references of WO 2006039895A1

Designated contracting state (EPC)
AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IS IT LI LT LU LV MC NL PL PT RO SE SI SK TR

DOCDB simple family (publication)
DE 102004049730 A1 20060420; **DE 102004049730 B4 20070503**; CA 2583834 A1 20060420; EP 1796829 A1 20070620; JP 2008515627 A 20080515; US 2008080306 A1 20080403; WO 2006039895 A1 20060420

DOCDB simple family (application)
DE 102004049730 A 20041011; CA 2583834 A 20051006; DE 2005001783 W 20051006; EP 05798042 A 20051006; JP 2007535985 A 20051006; US 69724607 A 20070405