

Title (en)

CONTINUOUS METHOD FOR PRODUCING AMIDES OF ETHYLENICALLY UNSATURATED CARBOXYLIC ACIDS

Title (de)

KONTINUIERLICHES VERFAHREN ZUR HERSTELLUNG VON AMIDEN ETHYLENISCH UNGESÄTTIGTER CARBONSÄUREN

Title (fr)

PROCÉDÉ CONTINU UTILISÉ POUR PRODUIRE DES AMIDES D'ACIDES CARBOXYLIQUES INSATURÉS ÉTHYLÉNIQUEMENT

Publication

EP 2274273 A1 20110119 (DE)

Application

EP 09728179 A 20090318

Priority

- EP 2009001986 W 20090318
- DE 102008017215 A 20080404

Abstract (en)

[origin: CA2720328A1] The invention relates to a continuous method for producing amides, according to which at least one carboxylic acid of formula (I) R₃-COOH (I), wherein R₃ is an optionally substituted alkenyl group comprising between 2 and 4 carbon atoms, is reacted with at least one amine of formula (II) HNR₁R₂ (II), wherein R₁ and R₂ are independently hydrogen or a hydrocarbon radical comprising between 1 and 100 C atoms, to form an ammonium salt and/or a Michael adduct, and said ammonium salt is then reacted to form a carboxylic acid amide, under microwave irradiation in a reaction pipe, the longitudinal axis of the pipe being oriented in the direction of propagation of the microwaves of a monomode microwave applicator.

IPC 8 full level

C07C 231/02 (2006.01); **C07C 233/09** (2006.01); **C07C 233/20** (2006.01); **C07C 233/38** (2006.01)

CPC (source: EP US)

B01J 19/126 (2013.01 - US); **C07C 231/02** (2013.01 - EP US); **B01J 2219/129** (2013.01 - US)

Citation (search report)

See references of WO 2009121486A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK TR

Designated extension state (EPC)

AL BA RS

DOCDB simple family (publication)

DE 102008017215 A1 20091008; DE 102008017215 B4 20120809; AU 2009231121 A1 20091008; BR PI0907852 A2 20150721;
CA 2720328 A1 20091008; CN 101918354 A 20101215; CN 101918354 B 20130717; EA 201001111 A1 20101230; EP 2274273 A1 20110119;
KR 20100135226 A 20101224; MX 2010010763 A 20101105; US 2011089020 A1 20110421; WO 2009121486 A1 20091008

DOCDB simple family (application)

DE 102008017215 A 20080404; AU 2009231121 A 20090318; BR PI0907852 A 20090318; CA 2720328 A 20090318;
CN 200980102208 A 20090318; EA 201001111 A 20090318; EP 09728179 A 20090318; EP 2009001986 W 20090318;
KR 20107018595 A 20090318; MX 2010010763 A 20090318; US 93537509 A 20090318