

Title (en)

METHOD AND DEVICE FOR THE PROCESS-ATTENDANT CLEANING OF MICRO- AND MINI-REACTORS

Title (de)

VERFAHREN UND VORRICHTUNG ZUR PROZESSBEGLEITENDEN REINIGUNG VON MIKRO- UND MINIREAKTOREN

Title (fr)

PROCEDE ET DISPOSITIF DE NETTOYAGE DE MICRO-REACTEURS ET DE DE MINI-REACTEURS CONCOMITANT A UN PROCESSUS

Publication

**EP 1427520 A1 20040616 (DE)**

Application

**EP 02762462 A 20020823**

Priority

- DE 10143189 A 20010904
- EP 0209440 W 20020823

Abstract (en)

[origin: WO03020414A1] The invention relates to methods and devices for the process-attendant cleaning of micro- and mini-reactors for controlled process management and for avoiding blockages on carrying out chemical reactions and physical processes. The invention is characterised in that the micro- or mini-reactor is cleaned by means of a controlled pressure increase with a subsequent sudden release or with a gas pressure surge in a cyclical manner or using a controller. Wall deposits formed from solid material(s) involved in the chemical synthesis or the physical process are thus almost completely removed such that, after the cleaning procedure, the initial operating pressure can be set in the micro- or mini-reactor. A blockage of the micro- or mini-reactor can thus be avoided and the transferring of said production method to the production scale with micro- or mini-reactors is possible for the first time. The above is particularly true for reactions in which educts in the form of suspensions are used and/or solid products arise, such as in the production of azo dyes, for example.

IPC 1-7

**B01J 19/00**; **B01L 3/00**; **B01L 11/00**; **C09B 67/00**

IPC 8 full level

**B08B 5/00** (2006.01); **B01J 19/00** (2006.01); **B01L 3/00** (2006.01); **B01L 99/00** (2010.01); **B08B 9/027** (2006.01); **B08B 11/00** (2006.01); **C09B 41/00** (2006.01); **B01F 13/00** (2006.01); **B01F 15/00** (2006.01); **G01N 35/10** (2006.01)

CPC (source: EP KR US)

**B01J 19/00** (2013.01 - KR); **B01J 19/0093** (2013.01 - EP US); **B01L 3/502738** (2013.01 - EP US); **B01L 13/02** (2019.07 - EP US); **C09B 41/008** (2013.01 - EP US); **B01F 33/30** (2022.01 - EP US); **B01F 35/145** (2022.01 - EP US); **B01J 2219/0099** (2013.01 - EP US); **B01L 2300/14** (2013.01 - EP US); **B01L 2400/0633** (2013.01 - EP US); **G01N 2035/106** (2013.01 - EP US); **Y10T 436/114998** (2015.01 - EP US)

Citation (search report)

See references of WO 03020414A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR IE IT LI LU MC NL PT SE SK TR

DOCDB simple family (publication)

**WO 03020414 A1 20030313**; CN 1551799 A 20041201; DE 10143189 A1 20030320; EP 1427520 A1 20040616; JP 2005501696 A 20050120; KR 20040031051 A 20040409; US 2004241865 A1 20041202

DOCDB simple family (application)

**EP 0209440 W 20020823**; CN 02817229 A 20020823; DE 10143189 A 20010904; EP 02762462 A 20020823; JP 2003524716 A 20020823; KR 20047003294 A 20020823; US 48864404 A 20040304