

Title (en)  
Emulsification device

Title (de)  
Emulgiervorrichtung

Title (fr)  
Dispositif d'émulsion

Publication  
**EP 2123349 A3 20101027 (EN)**

Application  
**EP 09006861 A 20090520**

Priority  
JP 2008133549 A 20080521

Abstract (en)  
[origin: EP2123349A2] There is provided an emulsification device for mixing two different liquids not dissolvable in each other, wherein (1) emulsion droplets can be reduced to micro size without reducing the channel width, which may cause degraded productivity; and wherein (2) a disperse phase can be prevented from adhering to the channel wall surface, thus allowing the device to be operated for a prolonged period of time and a uniform emulsion droplet size to be obtained. The emulsification device comprises: at least one channel (211) of a first liquid; a channel (210) of a second liquid; and a mixing channel (304) in which the first liquid is joined with the second liquid. In the mixing channel (304), the first liquid has a swirl component in the mainstream direction. The channel of the second liquid is connected to the central portion of the mixing channel, and the second liquid flows at the central portion of at least one swirl flow of the first liquid. In this way, at least one continuous-phase swirl flow is formed around the disperse phase.

IPC 8 full level  
**B01F 3/08** (2006.01); **B01F 5/04** (2006.01); **B01F 5/06** (2006.01); **B01F 7/00** (2006.01); **B01F 13/00** (2006.01); **B01F 27/906** (2022.01)

CPC (source: EP)  
**B01F 23/41** (2022.01); **B01F 25/10** (2022.01); **B01F 25/3131** (2022.01); **B01F 25/433** (2022.01); **B01F 25/4338** (2022.01); **B01F 25/434** (2022.01); **B01F 27/50** (2022.01); **B01F 33/30** (2022.01)

Citation (search report)

- [XA] GB 1027846 A 19660427 - KAISER ALUMINIUM CHEM CORP
- [X] US 2653801 A 19530929 - FONTEIN FREERK J, et al
- [X] US 5059357 A 19911022 - WOLF HARTMUT [DE], et al
- [XA] US 5542379 A 19960806 - KESSLER ALFRED [CH]
- [XA] US 2006272722 A1 20061207 - YAMADA TAKAYUKI [JP], et al
- [A] US 2005270900 A1 20051208 - SHVARTSMAN LEONID [UA], et al
- [A] DE 3400309 A1 19850822 - PETER BALAS GMBH [DE]

Cited by  
DE102012104053B3; US8252239B2; EP2662131A2; WO2023193002A1; WO2018083457A1; WO2020160430A1

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)  
**EP 2123349 A2 20091125; EP 2123349 A3 20101027; EP 2123349 B1 20130102**; CN 101584972 A 20091125; CN 101584972 B 20130821; JP 2009279507 A 20091203; JP 4798174 B2 20111019

DOCDB simple family (application)  
**EP 09006861 A 20090520**; CN 200910141094 A 20090520; JP 2008133549 A 20080521