Title (en)

EMULGATOR-FREE LIQUID EMULSION AND METHOD AND DEVICE FOR PRODUCING THE EMULSION.

Title (de)

FLÜSSIGEMULSION OHNE EMULGATOR UND VERFAHREN UND VORRICHTUNG ZUM VERFERTIGEN DER EMULSION.

Title (fr)

EMULSION LIQUIDE SANS EMULSIFIANT; PROCEDE ET DISPOSITIF POUR LA PREPARER.

Publication

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Application

EP 90906170 A 19900420

Priority

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Abstract (en)

[origin: EP0393715A1] Emulgator-free liquid emulsion and method and device for producing the emulsion. The emulsion consists of at least one hydrophobic liquid phase and at least one hydrophilic liquid phase, one of said phases being a disperse phase of the emulsion, which has a stable colloidal state with a particle size of the disperse phase of 1,000 nm or less, preferably a particle size in the range of 100 to 500 nm. In the method for producing the liquid emulsion in absence of an emulgator, the liquid phases are repeatedly recirculated in the form of their mixture through a mixing chamber which has an axially symmetrical shape and in which the mixture is brought into a rotational flow about the axis with a flow component parallel to the axis and in which the flow pressure of the mixture is reduced in flow direction by gradually increasing the flow velocity of the mixture up to the coaxial discharge of the rotating mixture from the mixing chamber to a minimum pressure being near to the vapor pressure of the mixture without reaching or falling below the vapor pressure. In the device the mixing apparatus (1) comprising a mixing chamber of a rotational symmetrical shape in a hollow element (14) with a plurality of tangential inlet openings (15) opening into a first chamber portion connected to a second chamber portion having a tapering section in flow direction and an axial outlet being coaxial with the axis of the mixing chamber, the first chamber portion has a rotational paraboloid form and the second chamber portion has a rotational inverse hyperboloid form, said axial outlet being a cylindrical duct portion (18), the parabolic wall (14) of said first chamber portion defining a focal line falling in the axis of rotation, said inlet openings (15) being arranged at a wide cross-section of the first chamber portion which is connected to the second chamber portion at the widest cross-section thereof, and the sum of the cross-sections of the inlet openings (15) substantially corresponds to the cross-section of said duct portion (18).

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