

Title (en)

METHOD FOR LIMITING THE CONCENTRATION OF OXYGEN CONTAINED IN A BIOMETHANE STREAM

Title (de)

VERFAHREN ZUR BEGRENZUNG DER SAUERSTOFFKONZENTRATION IN EINEM BIOMETHANSTROM

Title (fr)

PROCÉDÉ DE LIMITATION DE LA CONCENTRATION D'OXYGÈNE CONTENU DANS UN COURANT DE BIOMÉTHANE

Publication

**EP 3727650 A1 20201028 (FR)**

Application

**EP 18839834 A 20181217**

Priority

- FR 1762869 A 20171221
- FR 2018053340 W 20181217

Abstract (en)

[origin: WO2019122662A1] The invention relates to a method for producing biomethane (40) by purifying a biogas feedstock stream (1), comprising the following steps: a): injecting the gas feedstock stream (1) into a pretreatment unit (5) in which said gas stream is partially separated from the CO<sub>2</sub> and the oxygen which it contains and is compressed to a pressure P1 higher than 50 bar abs; b): injecting the gas stream (22) resulting from step b), depleted of CO<sub>2</sub>, into a cryogenic separator in a distillation column (26) in order to separate the nitrogen from said gas stream (22), said distillation column (26) comprising n plates, n being an integer comprised between 8 and 100; c): obtaining a stream (27), enriched with CH<sub>4</sub>, resulting from the cryogenic separation by pumping the bottoms product (37) from said column (26) at a pressure P2 higher than the critical pressure of said product, characterised in that when the molar concentration of nitrogen in said gas stream (22) resulting from step a), depleted of CO<sub>2</sub>, implemented in step b) is lower than a predetermined threshold, nitrogen is injected prior to step b), in order for the stream injected into said column (26) to have a molar concentration of nitrogen at least equal to said predetermined threshold.

IPC 8 full level

**B01D 53/22** (2006.01); **B01D 53/04** (2006.01); **B01D 53/047** (2006.01); **F25J 3/02** (2006.01)

CPC (source: EP KR US)

**B01D 53/0462** (2013.01 - EP KR US); **B01D 53/047** (2013.01 - EP KR); **B01D 53/225** (2013.01 - EP KR); **B01D 53/226** (2013.01 - US); **B01D 53/229** (2013.01 - EP KR US); **C02F 11/04** (2013.01 - KR); **C07C 7/005** (2013.01 - US); **C07C 7/04** (2013.01 - US); **C07C 7/11** (2013.01 - US); **C07C 7/144** (2013.01 - US); **F25J 3/0209** (2013.01 - EP KR); **F25J 3/0233** (2013.01 - EP KR); **F25J 3/0257** (2013.01 - EP KR); **F25J 3/08** (2013.01 - US); **B01D 53/047** (2013.01 - US); **B01D 2256/245** (2013.01 - EP KR US); **B01D 2257/102** (2013.01 - EP KR US); **B01D 2257/104** (2013.01 - EP KR US); **B01D 2257/30** (2013.01 - EP KR US); **B01D 2257/504** (2013.01 - EP KR US); **B01D 2257/708** (2013.01 - EP KR US); **B01D 2257/80** (2013.01 - EP KR); **B01D 2258/05** (2013.01 - EP KR); **B01D 2259/402** (2013.01 - US); **B01D 2259/416** (2013.01 - EP KR US); **F25J 2200/02** (2013.01 - EP KR); **F25J 2200/72** (2013.01 - EP KR); **F25J 2205/60** (2013.01 - EP KR); **F25J 2205/80** (2013.01 - EP KR); **F25J 2210/04** (2013.01 - EP KR); **F25J 2210/42** (2013.01 - EP KR); **F25J 2210/66** (2013.01 - EP KR); **F25J 2220/60** (2013.01 - EP KR US); **F25J 2220/62** (2013.01 - EP KR); **F25J 2220/66** (2013.01 - EP KR); **F25J 2230/30** (2013.01 - EP KR); **F25J 2235/60** (2013.01 - EP KR); **F25J 2270/42** (2013.01 - EP KR); **F25J 2270/60** (2013.01 - EP KR); **F25J 2290/90** (2013.01 - EP KR); **Y02C 20/40** (2020.08 - EP); **Y02E 50/30** (2013.01 - EP)

Citation (search report)

See references of WO 2019122662A1

Designated contracting state (EPC)

AL 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 RS SE SI SK SM TR

Designated extension state (EPC)

BA ME

DOCDB simple family (publication)

**WO 2019122662 A1 20190627**; CA 3085239 A1 20190627; CN 111432912 A 20200717; CN 111432912 B 20221101; EP 3727650 A1 20201028; FR 3075658 A1 20190628; FR 3075658 B1 20220128; KR 20200097734 A 20200819; US 2021087123 A1 20210325

DOCDB simple family (application)

**FR 2018053340 W 20181217**; CA 3085239 A 20181217; CN 201880079255 A 20181217; EP 18839834 A 20181217; FR 1762869 A 20171221; KR 20207017907 A 20181217; US 201816954790 A 20181217