

Title (en)

METHOD FOR PREPARING 1,3-BUTADIENE FROM N-BUTENES BY OXIDATIVE DEHYDROGENATION

Title (de)

VERFAHREN ZUR HERSTELLUNG VON 1,3-BUTADIEN AUS N-BUTENEN DURCH OXIDATIVE DEHYDRIERUNG

Title (fr)

PROCÉDÉ DE PRÉPARATION DE 1,3-BUTADIÈNE À PARTIR DE N-BUTÈNES PAR DÉSHYDROGÉNATION OXYDATIVE

Publication

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Application

EP 17702600 A 20170130

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Abstract (en)

[origin: WO2017133997A1] The invention relates to a method for preparing butadiene from n-butenes, comprising the steps of: A) providing a feed gas stream (a) containing n-butenes; B) feeding the feed gas stream (a) containing n-butenes and a gas containing oxygen into at least one oxidative dehydrogenation zone and oxidatively dehydrogenating n-butenes to form butadiene, resulting in a product gas stream (b) containing butadiene, unreacted n-butenes, steam, oxygen, low-boiling hydrocarbons, high-boiling secondary components, optionally carbon oxides and optionally inert gases; Ca) cooling the product gas stream (b) by bringing it into contact with a coolant, and condensing at least some of the high-boiling secondary components; Cb) compressing the remaining product gas stream (b) in at least one compression stage, resulting in at least one aqueous condensate stream (c1) and one gas stream (c2) containing butadiene, n-butenes, steam, oxygen, low-boiling hydrocarbons, optionally carbon oxides and optionally inert gases; Da) removing non-condensable and low-boiling gas constituents comprising oxygen, low-boiling hydrocarbons, optionally carbon oxides and optionally inert gases as a gas stream (d2) from gas stream (c2) by absorbing the C4 hydrocarbons comprising butadiene and n-butenes in an absorbent, resulting in an absorbent stream laden with C4 hydrocarbons and gas stream (d2), and Db) subsequently desorbing the C4 hydrocarbons from the laden absorbent stream in a desorption column, resulting in a C4 product gas stream (d1), Dc) the steam condensate is separated from the absorption agent in a phase separator, is evaporated in a steam generator and is reintroduced as a stripping gas into the desorption column, characterised in that the steam condensate is subject to a pretreatment prior to the evaporation in a steam generator in an additional step.

IPC 8 full level

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