Title (en)

METHOD FOR PRODUCING 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

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Abstract (en)

[origin: WO2014111409A1] The invention relates to a method for producing butadiene from n-butenens, comprising the following steps: A) a feed gas flow (a) containing n-butenes is provided; B) the feed gas flow (a) containing n-butenes and an oxygen-containing gas is fed to at least one oxidative dehydrogenation area and is oxidatively dehydrogenated from n-butenes to form butadiene; a product gas flow (b) containing butadiene, unreacted n-butenes, water vapour, oxygen, low-boiling hydrocarbons, auxiliary components boiling at a hgh temperature and optionally carbon oxides and optionally inert gases is obtained; Ca) the product gas flow (b) is cooled by bringing it into contact with an organic solvent as a cooling agent, Cb) the product gas flow (b) is compressed in at least one compression step and at least one aqueous condensate flow (c1) and a gas flow (c2) containing butadiene, n-butenes, water vapour, oxygen, low-boiling hydrocarbons, optionally carbon oxides and optionally inert gases is obtained; D) non-condensable and low-boiling gas component parts containing oxygen, low-boiling hydrocarbons, optionally carbon oxides and optionally inert gases are separated as a gas flow (d2) from the gas flow (c2) by absorbing C4-hydrocarbons containing butadiene and n-butenes in absorption means, an absorption agent flow charged with C4-hydrocarbons and the gas flow (d2) are obtained, and subsequently the C4 hydrocarbons are desorbed from the charged absorption agent flow and a C4 -product gas flow (d1) is obtained; E) the C4-product flow (d1) is separated by extractive distillation using a selected solvent for butadiene in a butadiene and the material flow (e1) containing the solvent selective and a material flow (e2) containing a n-butene; F) the butadiene and material flow (e1) containing the selective solvent is distilled in a material flow (f1) consisting essentially of the selective solvent and a material flow (f2) containing a butadiene.

IPC 8 full level

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