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(54) Title (EN): PROCESS FOR THE PRODUCTION OF ETHYLENE

(54) Title (FR): PROCEDE DE PRODUCTION D'ETHYLENE

(57) Abstract:

(EN): The invention relates to a process for the production of ethylene, comprising the steps of a) thermally converting, by a pyrolysis or a partial oxidation process, a feed charge containing methane into an acetylene containing effluent, and b) in situ hydrogenating, by a non-catalytic reaction, the acetylene produced in the first step into ethylene by intimately mixing the acetylene containing effluent with an ethane feed. The process according to the invention is more efficient than other synthesis schemes, while simplifying the overall process design. This process thus offers an economically attractive scheme for mass production of ethylene from natural gas, based on a well-known and proven acetylene route.

(FR): L'invention concerne un procédé de production d'éthylène consistant (a) à convertir thermiquement, au moyen d'une opération de pyrolyse ou d'oxydation partielle, une charge d'alimentation contenant du méthane en un effluent contenant de l'acétylène, et (b) à hydrogéner in situ, au moyen d'une réaction non catalytique, l'acétylène produit dans la première étape en éthylène par mélange intime de l'effluent contenant de l'acétylène avec une charge d'alimentation en éthane. Le procédé de l'invention est plus efficace que les autres procédés de synthèse, et permet, dans le même temps, d'obtenir une conception d'ensemble simplifiée. Ce procédé offre ainsi une solution économiquement attractive pour la production en masse d'éthylène à partir d'un gaz naturel sur la base d'une 'voie acétylène' bien connue et éprouvée.

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