

Title (en)  
PURIFICATION OF A MIXTURE OF H SB 2 /SB /CO BY CATALYSIS OF THE IMPURITIES

Title (de)  
REINIGUNG EINES H SB 2 /SB /CO-GEMISCHS DURCH KATALYSE DER VERUNREINIGUNGEN

Title (fr)  
PURIFICATION D'UN MELANGE H sb 2 /sb /CO PAR CATALYSE DES IMPURETES

Publication  
**EP 1636133 A1 20060322 (FR)**

Application  
**EP 04767313 A 20040610**

Priority  
• FR 2004001448 W 20040610  
• FR 0307007 A 20030611

Abstract (en)  
[origin: FR2856049A1] The gas flow is placed in contact with a first catalyst bed (12) containing at least one catalyst containing copper to convert, at a temperature between 100 and 200 deg. C and a pressure of at least 10 bars, at least part of the oxygen and/or unsaturated hydrocarbon into one or more catalyst products : The temperature is between 120 and 180[deg]C and the pressure between 10 and 80 bars, preferably between 20 and 50 bars. The hourly volume flow is between 100 and 10000 Nm 3>/h/m 3>, preferably between 1000 and 6000 nm 3>/h/m 3>. The gas flow also contains one or more sulfur-organic, nitrogen-organic and/or chloro- organic compounds. The gas flow is then placed in contact with a second catalyst bed (10) to convert at least part of these compounds into organic compounds and polar mineral compounds, and the gas flow is placed in contact with a third adsorption bed (11) to adsorb at least part of the mineral compounds produced in the second catalyst bed. In addition the gas flow can contain HCN and/or mercury, sulphur, chlorine, arsenic, selenium, bromium and/or germanium. The gas flow is then placed in contact with a first adsorption bed (3, 4) to adsorb at least part of these impurities. If the gas flow contains at least one carbonyl metal, it is placed in contact with a second adsorption bed. If the flow contains NO x, it is placed in contact with a third catalyst bed to convert the NO x present. The various adsorption and catalyst beds are separate or combined. The O 2 and unsaturated hydrocarbons are converted to steam (H 2O), carbon dioxide (CO2) and/or alkanes. The gas flow contains between 10 and 90% by volume H 2, between 10 and 90% by volume CO and some methane. The gas flow from some or all of the above processes is placed in contact with a fourth adsorption bed to eliminate H 2O and/or CO 2 and/or CH 2OH and/or hydrocarbons formed during passage through the catalyst beds, and/or subjected to a scrubbing stage to remove CO 2 and/or methanol, in particular scrubbing with amines. The gas flow is compressed (5) upstream of the first catalyst bed and at least some of the heat generated by the compression is used to reach the required temperature.

IPC 1-7  
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IPC 8 full level  
**B01D 53/04** (2006.01); **B01D 53/86** (2006.01); **C01B 3/56** (2006.01); **C01B 3/58** (2006.01)

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