

Title (en)
PROCESS FOR PRODUCING A PURIFIED SYNTHESIS GAS STREAM

Title (de)
VERFAHREN ZUR HERSTELLUNG EINES GEREINIGTEN SYNTHESGASSTROMS

Title (fr)
PROCEDE DE PRODUCTION D'UN FLUX DE GAZ DE SYNTHESE PURIFIE

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Application
EP 10711411 A 20100330

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Abstract (en)
[origin: WO2010112502A1] A process for producing a purified synthesis gas stream from a feed synthesis gas stream comprising besides the main constituents carbon monoxide and hydrogen also hydrogen sulphide, HCN and/or COS, the process comprising the steps of: (a) removing HCN and/or COS by contacting the feed synthesis gas stream with a water gas shift catalyst in a shift reactor in the presence of steam/water to react at least part of the carbon monoxide to carbon dioxide, and to obtain a synthesis gas stream depleted in HCN and/or in COS; (b) removing hydrogen sulphide in the synthesis gas stream depleted in HCN and/or in COS by contacting this gas stream in a H₂S-removal zone with an aqueous alkaline washing liquid to obtain a H₂S-depleted synthesis gas stream and a sulphide-comprising aqueous stream; (c) contacting the sulphide-comprising aqueous stream with sulphide-oxidizing bacteria in the presence of oxygen in a bioreactor to obtain a sulphur slurry and a regenerated aqueous alkaline washing liquid; (d) removing carbon dioxide from the H₂S-depleted synthesis gas stream, to obtain the purified synthesis gas stream and a gas stream enriched in CO₂..

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