

Title (en)
Ammonia production process.

Title (de)
Verfahren zur Herstellung von Ammoniak.

Title (fr)
Procédé pour la production d'ammoniac.

Publication
EP 0000993 A1 19790307 (EN)

Application
EP 78300276 A 19780810

Priority
• GB 3509677 A 19770822
• GB 4476677 A 19771027
• GB 4499677 A 19771028

Abstract (en)
[origin: US4298588A] An ammonia production process comprises steam hydrocarbon primary reforming, air secondary reforming, carbon monoxide shift, carbon oxides removal, ammonia synthesis and discarding of non-reactive gases and is made more economical in energy consumption by using excess air in secondary reforming and treating the synthesis gas to separate a hydrogen-enriched stream and returning that stream to the synthesis. Preferably the synthesis gas after carbon oxides removal is compressed if at all by no more than 50% and consequently the process can be carried out in a plant having a gas circulator but no compressor. Preferably synthesis is at a pressure in the range 40-80 bar abs. and at an outlet temperature in the range 350 DEG -430 DEG C. over a catalyst containing iron, cobalt and promoting compounds. Recovery of the hydrogen-enriched stream is preferably from a side stream of synthesis gas.

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C01C 1/04; **C01B 2/30**

IPC 8 full level
C01B 3/02 (2006.01); **C01B 3/38** (2006.01); **C01C 1/04** (2006.01)

CPC (source: EP US)
C01B 3/025 (2013.01 - EP US); **C01B 3/382** (2013.01 - EP US); **C01C 1/0405** (2013.01 - EP US); **C01C 1/0411** (2013.01 - EP US); **C01C 1/0464** (2013.01 - EP US); **C01B 2203/143** (2013.01 - EP US); **C01B 2203/147** (2013.01 - EP US); **C01B 2203/82** (2013.01 - EP US); **Y02P 20/52** (2015.11 - EP US)

Citation (search report)
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• GB 1460681 A 19770106 - PETROCARBON DEV LTD
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