

Title (en)

Process and hydrotreatment unit for petroleum charges comprising ammonia cracking and hydrogen recycle

Title (de)

Hydorraffinierungsverfahren und -anlage für Erdöleinsätze mit Ammoniakspaltung und Wasserstoffrückführung

Title (fr)

Procédé et unité d'hydrotraitement d'une charge pétrolière comprenant le craquage de l'ammoniac et le recyclage de l'hydrogène dans l'unité

Publication

EP 0899320 A1 19990303 (FR)

Application

EP 98402040 A 19980812

Priority

FR 9710679 A 19970825

Abstract (en)

Oil hydrotreatment comprises recycling of hydrogen within the unit by cooling the cracking effluent to an appropriate temperature, recovering a gaseous phase containing nitrogen, hydrogen and hydrogen sulfide, extracting the hydrogen sulfide and passing the remaining gas through a hydrogen recovery unit. The hydrotreatment of a hydrocarbon batch containing sulfur and nitrogen in the presence of a catalyst allows the recovery of hydrotreated hydrocarbon, a high pressure purge gas containing hydrogen sulfide and light hydrocarbons and a first effluent containing water and ammonium sulfide. This effluent is purified in a catalytic cracker heated to 1000-1400 degrees C to produce a cracker effluent containing hydrogen, hydrogen sulfide and nitrogen and this is cooled to allow recovery of the hydrogen. The high pressure purge gas is sent to the hydrocarbon extraction unit to produce a gas rich in hydrogen sulfide and a gaseous phase clear of hydrogen sulfide. The cracker effluent is cooled to between 30-100 degrees C in a heat exchanger in a time of between 1-5 seconds. The first effluent and the cooled effluent are compressed to 2-10 MPa, compatible with the hydrogen sulfide extraction unit, which is a high pressure amine extraction unit. The hydrogen recovery unit is a membrane permeation unit. The aqueous phase is also recycled.

Abstract (fr)

On décrit dans un procédé d'hydrotraitement (HDT) d'une charge (1) pétrolière contenant du soufre et de l'azote, le craquage catalytique de l'ammoniac, produit par le procédé d'hydrotraitement, dans un four (F), le refroidissement (E2) de l'effluent de craquage, l'extraction de l'hydrogène sulfuré dans une unité (20) de lavage aux amines et la séparation (SM) de l'hydrogène de l'effluent en résultant. L'hydrogène récupéré est recyclé dans l'unité d'hydrotraitement (HDT) par un conduit (17). <IMAGE>

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IPC 8 full level

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CPC (source: EP US)

C10G 49/007 (2013.01 - EP US); **C10G 49/22** (2013.01 - EP US)

Citation (search report)

- [A] US 3627470 A 19711214 - HAMBLIN ROBERT J J
- [A] US 4272357 A 19810609 - ROLLMANN LOUIS D
- [A] US 3365374 A 19680123 - SHORT WILLIAM L, et al
- [A] US 4806233 A 19890221 - JAMES JR ROBERT B [US], et al

Cited by

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