

Title (en)

Improved residual oil fluid catalytic cracking process with catalyst having increased metals tolerance

Title (de)

Fluidkatalytisches Krackverfahren mit einem Katalysator mit verbessertem Widerstand gegen Metalle

Title (fr)

Procédé de craquage catalytique en lit fluidisé avec un catalyseur ayant une résistance améliorée aux métaux

Publication

EP 1043384 A3 20010530 (EN)

Application

EP 00610038 A 20000406

Priority

US 28866599 A 19990409

Abstract (en)

[origin: EP1043384A2] An improved residual oil fluid catalytic cracking process for reducing catalyst deactivation caused by vanadium and/or sodium deposited on circulating catalyst used in the process from a residual oil feed, which process includes the steps of; contacting a residual oil feed in a fluid catalytic cracking reactor with hot regenerated cracking catalyst under hydrocarbon cracking conditions to convert the residual oil feed into lower molecular weight hydrocarbon product vapors and form a spent catalyst containing carbonaceous deposits including vanadium and/or sodium; separating a majority of the lower molecular weight hydrocarbon product vapors from the spent cracking catalyst to form separated product vapors and separated spent catalyst containing entrained hydrocarbon vapors; processing the separated product vapors into desired product fractions; subjecting the separated spent catalyst to stripping to remove therefrom a majority of the entrained hydrocarbon vapors; contacting the resulting stripped spent catalyst in a regenerator with an oxygen-containing regeneration gas under catalyst regeneration conditions which include a combination of a regeneration temperature and an oxygen level in the regeneration gas which is effective to burn off the spent catalyst a majority of the carbonaceous deposits, while leaving a majority of the vanadium and/or sodium on the catalyst in less than completely oxidized form, and thereby produce a regenerated catalyst having a carbon level reduced from that of the spent catalyst and containing vanadium and/or sodium, a majority of which is in less than the completely oxidized form, and; returning the regenerated catalyst to the reactor. <IMAGE>

IPC 1-7

C10G 11/18

IPC 8 full level

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CPC (source: EP)

C10G 11/182 (2013.01)

Citation (search report)

- [X] EP 0801126 A2 19971015 - EXXON RESEARCH ENGINEERING CO [US]
- [X] US 4377470 A 19830322 - HETTINGER JR WILLIAM P, et al
- [X] EP 0702077 A2 19960320 - BAR CO PROCESSES JOINT VENTURE [US]
- [X] EP 0724009 A1 19960731 - EXXON RESEARCH ENGINEERING CO [US]
- [A] WO 9708269 A1 19970306 - MOBIL OIL CORP [US]
- [A] US 5077252 A 19911231 - OWEN HARTLEY [US], et al
- [A] EP 0511071 A1 19921028 - INST FRANCAIS DU PETROLE [FR]
- [A] EP 0152845 A1 19850828 - AIR PROD & CHEM [US]

Cited by

CN1333044C; EP1306420A3

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