

Title (en)
METHOD FOR REMOVING CHLORINE FROM HIGH CHLORINE CONTENT WASTE OIL USING SOLID ACID SUBSTANCES

Title (de)
VERFAHREN ZUR ENTFERNUNG VON CHLOR AUS ALTÖL MIT HOHEM CHLORGEHALT UNTER VERWENDUNG VON FESTEN SÄURESUBSTANZEN

Title (fr)
PROCÉDÉ D'ÉLIMINATION DU CHLORE D'UNE HUILE USÉE À HAUTE TENEUR EN CHLORE À L'AIDE DE SUBSTANCES ACIDES SOLIDES

Publication
EP 4105298 A4 20230719 (EN)

Application
EP 20938561 A 20201111

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- KR 2020015788 W 20201111

Abstract (en)
[origin: EP4105298A1] The present embodiment pertains to a technique for removing at least 90% of the chlorine in high Cl content oil by performing a high-temperature treatment using solid acid substances. The oil removed Cl from a waste oil can be incorporated in a refinery process and thereby converted into fuel or a chemical product. According to the present embodiment, chlorine can be removed through a high-temperature heat treatment after mixing high Cl content oil with a solid acid material. In the process of removing Cl, major impurities, such as S, N, and O, as well as Na, Ca, and Fe, which can act as catalyst poisons in the catalytic reactions of a refinery process, are also removed at the same time. In the process of removing Cl from the high Cl content oil through the solid acid substances, abnormal reactions, deterioration of product properties, and yield loss can be prevented by slightly increasing the average molecular weight of the oil composition through oligomerization and alkylation reactions. This method is environmentally appropriate in that waste solid acid substances (waste zeolite, waste clay, etc.), which are discharged after use in petrochemical processes, can be used as solid acid substances for Cl removal after undergoing a simple treatment.

IPC 8 full level
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Citation (search report)

- [X] US 2016264874 A1 20160915 - NARAYANASWAMY RAVICHANDER [IN], et al
- [X] US 5744668 A 19980428 - ZHOU DINLI [CN], et al
- See references of WO 2021246589A1

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