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(54) Title: ALKALI-ENHANCED HYDROTHERMAL PURIFICATION OF PLASTIC PYROLYSIS OILS

(57) Abstract: The invention provides a method for preparing fuel components from waste pyrolysis oil, comprising: a) providing a waste pyrolysis oil, comprising as the major part plastic pyrolysis oil and/or tyre pyrolysis oil, and comprising impurities in the form of chlorine, nitrogen, sulphur, and optionally silicone or bromide; b) purifying the waste pyrolysis oil by subjecting it to a hydrothermal treatment with water or alkaline water; c) separating the hydrothermally treated waste pyrolysis oil from the aqueous phase; d) preparing a hydroprocessing feed from the hydrothermally treated waste pyrolysis oil, optionally in mixture with one or more feed(s) of oxygen-containing biological oils having impurities of chlorine and silicon; e) hydroprocessing the hydroprocessing feed catalytically with hydrogen to cause hydrogenation, and optionally one or more of hydrodeoxygenation, hydrodesulfurisation, hydrodenitrification, hydrodechlorination, hydrodearomatization, and hydroisomerisation; f) recovering a hydrocarbon fraction boiling in the liquid fuel range.



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