

(54) Title of the invention : A METHOD OF PRODUCING BIO-FUEL LIQUID USING MICROWAVE-ASSISTED CATALYTIC CO-PYROLYSIS

(51) International classification :C10B0053020000, B01J0019120000, C10L0005360000, G01N0001440000, H05B0006800000

(86) International Application No :NA  
Filing Date :NA

(87) International Publication No : NA

(61) Patent of Addition to Application Number :NA  
Filing Date :NA

(62) Divisional to Application Number :NA  
Filing Date :NA

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## (57) Abstract :

ABSTRACT: Title: A Method of Producing Bio-Fuel Liquid Using Microwave-Assisted Catalytic Co-Pyrolysis The present disclosure proposes a method of producing bio-fuel liquid from a biomass and a petroleum by-product using a microwave-assisted catalytic co-pyrolysis system. The biomass and the petroleum by-product are mixed to obtain a feedstock mixture, which is grinding into fine particles. The biomass could be rice straw and the petroleum by-product could be paraffin wax. The fine particles are transmitted to a pyrolysis reactor, which produces microwave energy within a microwave reaction chamber. Further, the fine particles are exposed or subjected to high-frequency waves of the pyrolysis reactor at 450 W, which causes the fine particles transform into vaporised volatiles and a sludge, where the vaporised volatiles being separated and transferred to a collection tank. The vaporized volatiles are delivered to a condenser from the collection tank to convert the vaporized volatiles into pyrolysis oil, which is subsequently transferred to a distillation chamber.

No. of Pages : 14 No. of Claims : 7