

Title (en)

DEVICE AND METHOD FOR UPGRADING ENERGY- AND CHEMICAL RAW MATERIALS BY REACTING THEM WITH CHEAP RAW MATERIALS

Title (de)

VORRICHTUNG UND VERFAHREN ZUR AUFWERTUNG VON ENERGIE- UND CHEMIEUROHSTOFFEN DURCH REAKTION MIT GERINGPREISIGEN ROHSTOFFEN

Title (fr)

PROCEDE ET DISPOSITIF D'EVALUATION DE MATIERES PREMIERES ENERGETIQUES ET CHIMIQUES PAR REACTION DE MATIERES PREMIERES A COUT REDUIT

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Abstract (en)

[origin: WO9915605A1] The invention relates to a device and a method for upgrading energy- and chemical raw materials by reacting them with cheap raw materials. Up until now, crude oils, both natural and synthetic, have been separated by distillation and then upgraded. During distillation, constituents containing heteroatoms are first broken down into undesirable problem substances which are low in hydrogen, e.g., PAH, thiophenes, pyrroles, pyridines and dienes, and then eliminated using expensive upgrading hydrogen. According to the inventive method, the substances are first upgraded with water, without using hydrogen, and then separated. The pressurised water thermolysis uses the properties of the original substances repeatedly and in various ways so that the undesirable problem substances are never produced. The inventive method also improves the properties of the product and the waste water and makes energy-saving separation processes possible. The reactor carries out the autothermic/allothermic upgrading process and the product separation process at the same time.

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