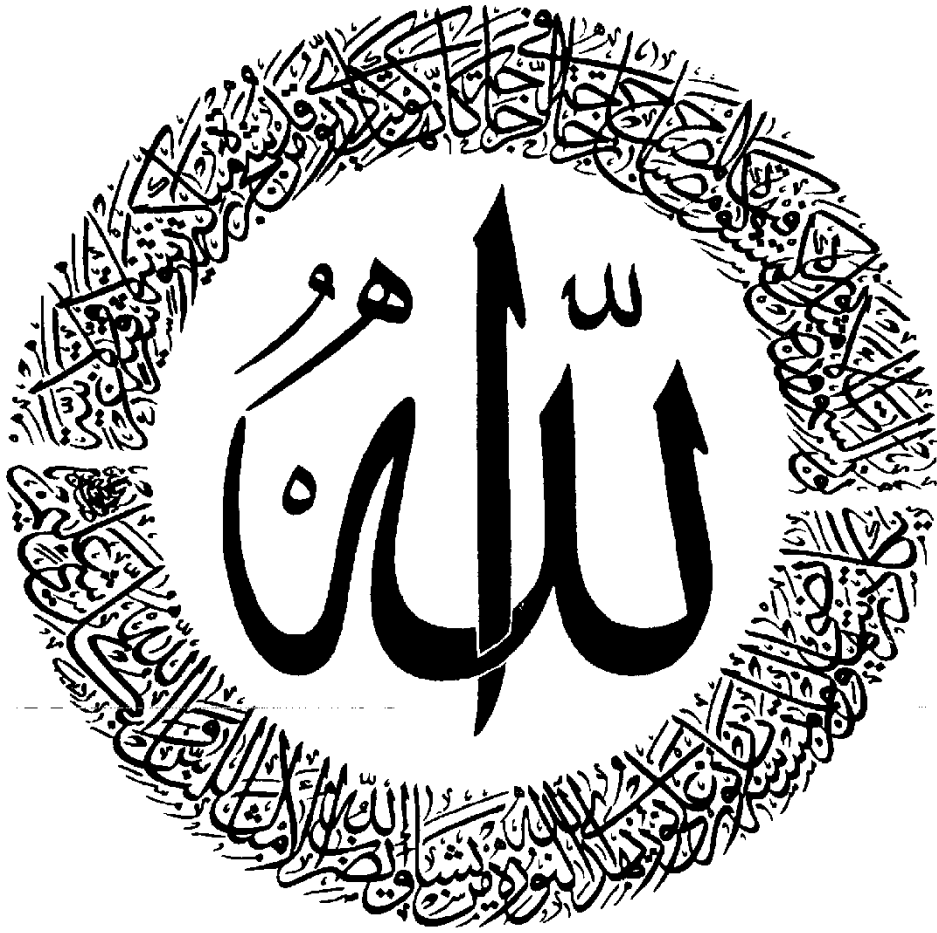


الإسnehلال



صدق الله العظيم

سورة النور - الآية (35)

DEDICATION

To each of the light of his knowledge of the mind of others

Or guided by the correct answer puzzled

His Eminence showed the humility of scholars

And his greeting was the mercy of those who knew

ACKNOWLEDGEMENTS

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Abstract

Hydrotreating processes play a vital role in petroleum refineries to meet the increasing demand of transportation fuels, which is the one method of the recent trends in processing of heavier crudes with higher sulfur contents and more stringent products specifications for cleaner transportation fuels.

Diesel Hydrotreater unit in Khartoum Refinery Company (KRC) is one of the most important units, which is playing a great role to upgrade the specifications of the diesel fuel.

In this unit several kind of treatment process using physical and chemical means ,starts from the filtering through the heat equipments (exchangers ,Furness), to the reactor then to separation processes .

In this research the explanation of the mechanism of hydrotreating process were done showed the specification of the diesel before and after the process then straight forward to the process description followed by material and energy balance of the equipments and a stripper column was designed which is aim to separate the lights from the diesel, then some suggestion were mentioned to overcome the shortage of the presence unit in Khartoum refinery.



المستخلص

وقود الديزل من أهم أنواع الوقود المستخلص من خام النفط

وحدة معالجة الديزل بالهيدروجين أحد الوحدات المهمة التي تلعب دورا فعالا لتحسين خواص وقود الديزل.

يتم في هذه الوحدة عدد كبير ومختلف من عمليات المعالجة التي تتبع سبل كيميائية وفيزيائية إبتداء من الفلاتر مرورا بمعدات انتقال الحرارة للمفاعل الرئيسي ثم لعمليات الفصل النهائية.

وفي هذا البحث تم التطرق إلى آلية عملية المعالجة بالهيدروجين وخواص الديزل قبل وبعد المعالجة مع وصف شامل للعملية يتبعها حسابات موازنة المادة والطاقة وتم تصميم برج فصل الذي يلعب دورا مهما في فصل المنتجات النفطية الخفيفة من الديزل المعالج مع عرض عدد من الاقتراحات التي تساعد على تجاوز والتغلب على بعض نقاط القصور في الوحدة مصفاة الخرطوم.



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