

84-128859/21

H04

MOBI 01.10.82

*EP -108-482-A

MOBIL OIL CORP

01.10.82-GB-028095 (16.05.84) 801j-08/18 C07c-01/20 C10g-03

Conversion of oxygenate to hydrocarbon, e.g. methanol to gasoline - using liq. heat exchange medium to recover heat of reaction

C84-054306

D/S: BE DE FR GB IT NL

CLAIMED PROCESS

Conversion of oxygenates (lower alcohols and/or ethers) to hydrocarbons comprises reacting in a fluidised bed of a zeolite catalyst (I) having a silica/alumina ratio of at least 12 and a constraint index of 1-12. The improvement comprises recovering the heat generated during the reaction by:

- (a) maintaining a liquid-phase heat exchange medium (II) in heat exchange relationship with (I); and
- (b) passing the heated (II) into heat exchange relationship with water to generate steam.

(II) is suitably an organic liquid, pref. a mixt. of diphenyl and diphenyl oxide, or a molten salt eutectic, pref. a mixt. of Na nitrate and nitrite.

USES

The process is partic. for the conversion of methanol

to gasoline over a ZSM-5 zeolite catalyst.

PROCESS

The heat exchange means may be located in the fluidised bed itself; or, a portion of the hot (I) may be removed from the reactor vessel and circulated to a separate heat exchange zone for contact with (II).

(II) may also be contacted with produced gas for cooling such contact being effected in the closed heat transfer circuit at a point in the cycle subsequent to the steam generation and prior to contact with (I). (14pp1639MHDwgNo 0/1)

(E)ISR: US4338475 US4136642 US4197418 US4238631
US1882809 US2375758 US4129098 GB2068094

EP-108482-A