

CLAIMS

1. A process for conversion of a hydrocarbonaceous feed, having a feed temperature, to a hydrocarbonaceous effluent, having an effluent temperature, by hydrotreatment, in presence of a material catalytically active in hydrotreatment and an amount of hydrogen,
5 wherein said conversion is exothermal and wherein an amount of said hydrocarbonaceous effluent will solidify at a solidification temperature above said feed temperature and below said effluent temperature,
10 and wherein said feed is preheated by heat exchange, utilizing thermal energy from said effluent,
characterized in said heat exchange being mediated by a fluid heat exchange medium being physically separated from said feed and said effluent and having a temperature above said solidification temperature.
- 15 2. A process according to claim 1 wherein said fluid heat exchange medium is a vapor generated from a liquid when heated by said effluent in a boiler.
- 20 3. A process according to claim 1 wherein said heat exchange medium is a liquid at the temperature of said hydrocarbonaceous effluent.
- 25 4. A process according to claim 1, 2 or 3 wherein said hydrocarbonaceous feed comprises one or more organically bound halides and organically bound nitrogen and said material catalytically active in hydrotreatment is active in converting organically bound halides and organically bound nitrogen into inorganic halides and ammonia.
- 30 5. A process according to claim 4 wherein said effluent is separated into a first vapor phase and a first liquid phase in a separator unit, and inorganic halides are removed from said first vapor phase by contact with an amount of water.
6. A process according to any of the claims 4 or 5, wherein the one or more halides comprise chloride.

7. A process according to any of the claims 4, 5 or 6, wherein the material catalytically active in converting organically bound halides into inorganic halides is also catalytically active in olefin saturation.
- 5 8. A process according to any of the claims 4, 5, 6 or 7, wherein the material catalytically active in converting organically bound halides into inorganic halides comprises: (i) a group VIII metal, (ii) a group VIB metal, and (iii) a support, said support comprising one or more of the following: aluminum oxide, silicium oxide, and titanium oxide.
- 10 9. A process for hydro-treating a hydrocarbon stream comprising the process of any of the claims 5, 6, 7 or 8, followed by the step of:
further treating the first liquid phase from said separator unit in order to provide a hydrocarbon product.
- 15 10. A process according to claim 9, followed by the step of directing the hydrocarbon product to a steam-cracking process.
- 20 11. A system for hydrotreatment of a hydrocarbon stream comprising
(a) a hydroprocessing reactor containing a material catalytically active in hydroprocessing, said hydroprocessing reactor comprising an inlet for inletting a hydrogen enriched hydrocarbon stream and an outlet for outletting a first product stream,
(b) a feed heat exchanger upstream said hydroprocessing reactor and an effluent heat exchanger downstream said hydroprocessing reactor, being in thermal
25 communication via a heat exchange medium.
12. A system according to claim 11 wherein said effluent heat exchanger is a boiler.