CLAIMS

1. A process for reducing the Bromine Index of an aromatic hydrocarbon feedstock comprising multi-olefins, comprising the step of contacting the hydrocarbon feedstock comprising multi-olefins with a catalyst at conversion conditions wherein the catalyst includes at least one molecular sieve and at least one clay wherein the catalyst has a volume ratio of the molecular sieve over the clay from about 1:99 to 99:1, wherein the hydrocarbon feedstock has not been treated with a hydrotreating process and wherein the molecular sieve comprises at least one of ZSM-4, ZSM-12, mordenite, ZSM-18, ZSM-20, zeolite Beta, Faujasite X, USY, REY, MCM-22, MCM-36, MCM-49, MCM-56, M41S, MCM-41, and any combination thereof.

2. The process of claim 1, wherein the contacting step includes contacting the hydrocarbon feedstock with one or more of the molecular sieve(s) under first conversion conditions to form a first product; and further comprising a step of contacting at least a portion of the first product with at least one clay under second conversion conditions to form a second product, wherein the second product has a Bromine Index no greater than 20% of the Bromine Index of the first product.

3. The process according to any preceding claim, further comprising the steps of contacting a hydrocarbon feed with an absorbent under absorption condition and effective to remove nitrogen-containing or sulphur-containing impurities, wherein the absorbent comprises at least one Engelhard F-24 clay, Fitrol 24, Fitro 25, Fitrol 62, Montmorlillonite clay, Tonsil clay, an alumina compound, and any combination thereof.

4. The process according to any preceding claim, wherein the hydrocarbon feedstock contacts the clay prior to the molecular sieve.

5. The process according to any preceding claim, wherein the hydrocarbon feedstock contacts the clay prior to the molecular sieve.

6. The process according to any preceding claim, wherein the molecular sieve is located in a separate reactor bed from the clay.

7. The process according to any preceding claim, wherein the molecular sieve comprises a spent molecular sieve.

8. The process according to any preceding claim, wherein the molecular sieve has an alpha value of at least 1.

9. The process according to any preceding claim, wherein the clay comprises at least one of Engelhard F-24 clay, Fitrol 24, Fitro 25, Fitrol 62, Montmorlillonite clay, Tonsil clay, an alumina compound, and any combination thereof.

10. The process according to any preceding claim wherein the hydrocarbon feedstock has a multi-olefin level of less than 500 ppm.

11. The process according to any preceding claim, wherein the hydrocarbon feedstock comprises aromatic compounds.

12. The process according to any preceding claim, wherein the conversion conditions, first conversion conditions, or second conversion conditions, comprise a temperature range from 38 °C to 538 °C, a pressure range from 136 kPa-a to 13891 kPa-a and a WHSV from 0.1 hr^{-1} to 200 hr^{-1}.

13 The process according to any preceding claim, further comprising a step of regenerating the molecular sieves or clay with an oxidative agent under regeneration conditions having a temperature range of 30 °C to 900 °C, a pressure range of 10 kPa-a to 20000 kPa-a and a WHSV from 0.1 hr^{-1} to 1000 hr^{-1}.

14 The process according to any preceding claim, further comprising a step of rejuvenating the molecular sieve or clay with a reductive agent under rejuvenation conditions having a temperature range of 30 °C to 900 °C, a pressure range of 10 kPa-a to 20000 kPa-a and a WHSV from 0.1 hr^{-1} to 1000 hr^{-1}.

15 The process according to any preceding claim, wherein the hydrocarbon feedstock has a flow rate of more than 100Kg per day.

16 A process for reducing the Bromine Index of a hydrocarbon feedstock comprising multi-olefins comprising the step of retrofitting an existing clay treating process with a process of any proceeding claim.

CLAIMS:

1. An invention not claimed in any divisional application.