

FORM 2

THE PATENTS ACT, 1970
(39 of 1970)
AND
THE PATENTS RULES, 2003

**COMPLETE
SPECIFICATION**

(See Section 10; rule 13)

TITLE OF THE INVENTION

“PROCESS FOR PREPARING HYDROCRACKING CATALYST
COMPOSITIONS”

APPLICANT

SHELL INTERNATIONALE RESEARCH MAATSCHAPPIJ B.V.
of Carel van Bylandtlaan 30, NL-2596 The Hague
The Netherlands; Nationality: The Netherlands

The following specification particularly describes
the invention and the manner in which
it is to be performed

C L A I M S

1. A process for the preparation of a naphtha-selective hydrocracking catalyst comprising of from 3 to 4.8 %wt of molybdenum, calculated as metal, and of from 1.5 to 3 %wt of nickel, calculated as metal, which comprises loading a refractory oxide support comprising an alumina binder component and a zeolite Y component in a content of from 65 to 75 wt% based on the total weight of the catalyst, with nickel and molybdenum in the presence of a solution comprising citric acid, wherein the zeolite Y component has a unit cell size in the range of from 24.42 to 24.52 Å, a SAR in the range of from 10 to 15, and a surface area of from 910 to 1020 m²/g.
2. A process according to claim 1, wherein nickel and molybdenum are co-mulled with the refractory oxide support components and extruded to form an extrudate.
3. A process according to claim 1, wherein nickel and molybdenum are loaded on a pre-formed refractory oxide support in a pore volume impregnation process.
4. A process according to claim 2 or 3, wherein the extrudate or the loaded refractory oxide support is calcined at a temperature in the range of from 450 °C to 850 °C to form a catalyst.
5. A process according to any one of claims 1 to 4, which process further comprises a sulfidation step.
6. Process for hydrocracking a hydrocarbonaceous feedstock, which process comprises contacting the feedstock at elevated temperature with a catalyst composition as prepared by a process as claimed in any one of claims 1 to 5.
7. Process according to claim 6, which process comprises contacting the feedstock with the catalyst composition at a reaction temperature in the range of from 250 to 500 °C

and a total pressure at the reactor
inlet in the range of from 3×10^6 to 3×10^7 Pa.

dated this 20 day of June 2014.

(Arindam Paul)
REG. No.: IN/PA-174
of De Penning & De Penning
(Agent For The Applicants)