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Declarations under Rule 4.17:

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))

[Continued on next page]

(54) Title: AROMATIZATION OF ALKANES USING A GERMANIUM-ZEOLITE CATALYST

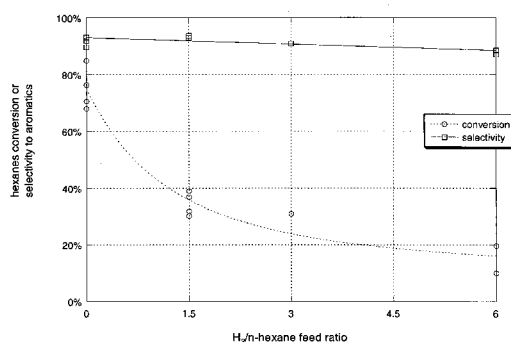


Figure: Variation of selectivity and conversion with feed concentration

Fig. 1

(57) Abstract: This invention relates to a process for the aromatization of C₆ to C₁₂ alkanes, such as hexane, heptane and octane, to aromatics, such as benzene, ethyl benzene, toluene and xylenes, with a germanium-containing zeolite catalyst. The catalyst is a non-acidic aluminum-silicon-germanium zeolite on which a noble metal, such as platinum, has been deposited. The zeolite structure may be of MFI, BEA, MOR, LTL or MTT. The zeolite is made non-acidic by being base-exchanged with an alkali metal or alkaline earth metal, such as cesium, potassium, sodium, rubidium, barium, calcium, magnesium and mixtures thereof, to reduce acidity. The catalyst is sulfur tolerant and may be pretreated with a sulfur compound, i.e., sulfided. The hydrocarbon feed may contain sulfur up to 1000 ppm. The present invention could be applicable to a feedstream which is predominantly paraffinic and/or low in naphthenes. Lowering the hydrogen to hydrocarbon ratio increases conversion and aromatics selectivity.

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