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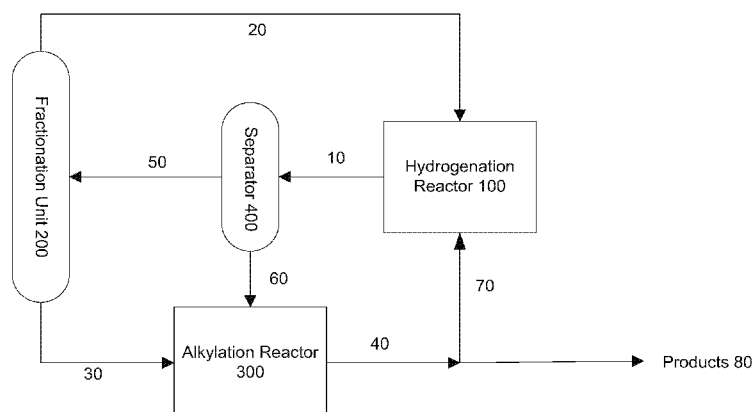
Declarations under Rule 4.17:

- as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii))
- as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))

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(54) **Title:** HYDROGEN RECYCLE AND HYDROGEN CHLORIDE RECOVERY IN AN ALKYLATION PROCESS

FIGURE 1
An Alkylation Unit with Catalyst Hydro-Regeneration, Hydrogen Recycle,
and Hydrogen Chloride Recovery



(57) **Abstract:** We provide an alkylation process, comprising: separating and recycling a hydrogen gas and a hydrogen chloride from an offgas of a hydrogenation reactor; wherein the hydrogen gas is recycled to the hydrogenation reactor; and wherein the hydrogen chloride is recycled to an alkylation reactor. We also provide an alkylation process unit for performing this process.



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