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(54) Title: INTEGRATED BUTANE ISOMERIZATION AND IONIC LIQUID CATALYZED ALKYLATION PROCESSES

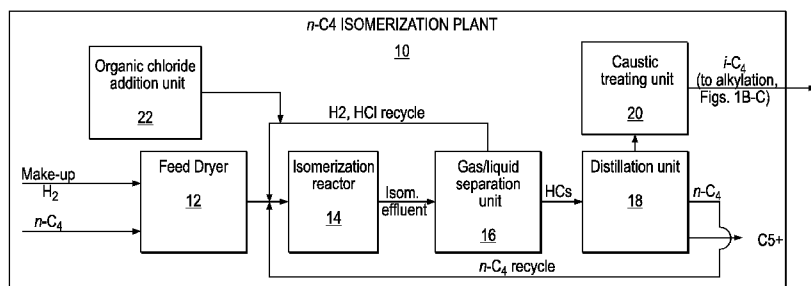


FIG. 1A
(Prior Art)

(57) Abstract: Integrated isomerization and ionic liquid catalyzed alkylation processes may comprise integrating ionic liquid alkylation and n-butane isomerization using a common distillation unit for separating an n-butane containing fraction from at least one of an alkylation hydrocarbon phase from an ionic liquid alkylation reactor and an isomerization hydrocarbon stream from an isomerization unit. The n-butane containing fraction may undergo isomerization to provide an isomerization reactor effluent comprising the isomerization hydrocarbon stream. An isobutane containing fraction, separated from at least one of the alkylation hydrocarbon phase and the isomerization hydrocarbon stream, may be recycled from the distillation unit to the ionic liquid alkylation reactor.