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(54) Title: A PROCESS FOR OLIGOMERISING A HYDROCARBON TO FORM AT LEAST ONE CO-MONOMER PRODUCT

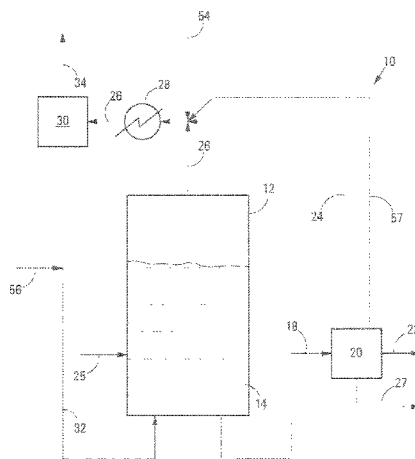


FIG 1

(57) Abstract: A process (10) for oligomerising a hydrocarbon to form at least one co-monomer product (22) includes feeding a hydrocarbon reactant and organic liquid diluent solvent (32) into an oligomerisation reactor (12). The organic liquid diluent solvent has a normal boiling point below the normal boiling point of 1-hexene but above -20°C, or the organic diluent solvent is in the form of a solvent admixture with at least 70% by mass of the solvent admixture constituting organic diluent solvents having a normal boiling point below the normal boiling point of 1-hexene but above -20°C. The oligomerisation reactor (12) holds at least one co-monomer product formed in the oligomerisation reactor admixed with a catalyst system (25) introduced into the oligomerisation reactor (12). The catalyst system (25) includes a catalyst dissolved in at least one catalyst solvent. At least a portion of the hydrocarbon reactant is oligomerised in the reactor (12) to form co-monomer product and polymeric by-product as part of a liquid product, which is withdrawn. When there is only one catalyst solvent and only one organic liquid diluent solvent, the catalyst solvent and the organic liquid diluent solvent are not the same solvent. When there is more than one catalyst solvent or more than one organic liquid diluent solvent, at least one of the catalyst solvents is not also used as organic liquid diluent solvent or at least one of the organic liquid diluent solvents is not also used at the catalyst solvent. The mass ratio of all organic liquid diluent solvent introduced into the oligomerisation reactor to all catalyst solvent introduced into the oligomerisation reactor over a selected time period is between 15:1 and 4500:1.



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