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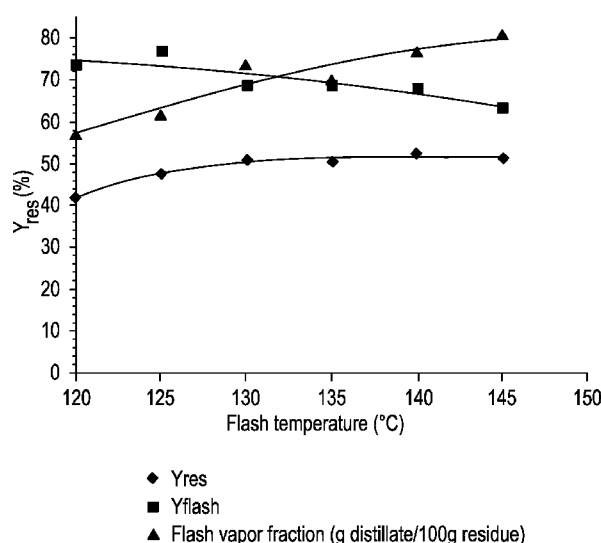
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(54) Title: PROCESS FOR PRODUCTION OF METHACRYLIC ACID ESTER

FIG. 6

MMA yield and flash vapor recovery



(57) Abstract: This invention provides a method for producing α,β -unsaturated carboxylic acid esters in high yield from acetone cyanohydrin and sulfuric acid through the separation and concurrent catalytic conversion of reaction side products to additional α,β -unsaturated carboxylic acid ester product. The catalyst comprises at least one Group IA element and may include a porous support and/or a promoter element selected from at least one of phosphorous, boron, titanium, zinc, zirconium, tin, bismuth, cerium, and alkaline earth metals. The method for producing methacrylic acid esters, such as methylmethacrylate (MMA), comprises the steps of: i) providing an alkyl alcohol and an organic fraction comprising an alkyl methacrylate, an alkyl α -hydroxyisobutyrate and an alkoxyisobutyrate; ii) vaporizing at least a portion of the organic fraction and at least a portion of the alkyl alcohol; iii) contacting the vaporized organic fraction and alcohol with a catalyst comprising at least one element selected from the group consisting of lithium, sodium, potassium, rubidium, cesium and francium, to convert the alkyl α -hydroxyisobutyrate and alkyl alkoxyisobutyrate to additional alkyl methacrylate and produce a mixture comprising alkyl methacrylate, methacrylic acid, alkyl alcohol, and water.



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