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(54) Title: WATER SEPARATION PROCESS

(57) Abstract

An improved process for azeotropic distillation of a feedstock in which the feedstock comprises an aliphatic carboxylic acid, water and an ester impurity derived from said aliphatic carboxylic acid, wherein the improvement comprises: (a) conducting the azeotropic distillation in the presence of an organic entrainer to produce a liquid phase component comprising said aliphatic carboxylic acid having a reduced water content relative to the water content in the feedstock and a vapor phase component which contains the organic entrainer, water and said ester impurity; (b) condensing the vapor phase component under conditions whereby the organic entrainer and water condense and a substantial portion of the ester impurity remains in the vapor phase; (c) recovering the ester impurity in the vapor phase; (d) separating the organic entrainer and water condensate from step (b) into an organic phase and an aqueous phase; and (e) returning the organic phase to the distillation column.

