

Preparation of 1,6-hexanediol having a purity of over 99 %

5 Abstract

1,6-Hexanediol is prepared from a carboxylic acid mixture comprising adipic acid, 6-hydroxycaproic acid and small amounts of 1,4-cyclohexanediols which is obtained as a by-product in the
10 oxidation of cyclohexane to cyclohexanone/cyclohexanol by water extraction of the reaction mixture, by esterification of the acids and hydrogenation wherein

- 15 a) the monocarboxylic and dicarboxylic acids present in the aqueous dicarboxylic acid mixture are reacted with a low molecular weight alcohol to give the corresponding carboxylic esters,
- 20 b) the resulting esterification mixture is freed of excess alcohol and low boilers in a first distillation stage,
- 25 c) the bottoms are fractionated in a second distillation stage to give an ester fraction essentially free of 1,4-cyclohexanediols and a fraction comprising at least the major part of the 1,4-cyclohexanediols,
- 30 d) the ester fraction essentially free of 1,4-cyclohexanediols is catalytically hydrogenated and
- e) in a pure distillation stage, 1,6-hexanediol is isolated from the hydrogenation product in a manner known per se.

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