

METHOD OF PRODUCING HIGH-PURITY HYDROXYPIVALALDEHYDE AND/OR DIMER THEREOF

ABSTRACT OF THE DISCLOSURE

The present invention provides a method of producing high-purity hydroxypivalaldehyde and/or dimer thereof, including: reacting isobutyl aldehyde with formaldehyde in a presence of a basic catalyst; distilling a low boiling point component including unreacted isobutyl aldehyde to obtain an aqueous solution; adding a diluent to the aqueous solution; cooling the aqueous solution to crystallize the hydroxypivalaldehyde and/or the dimer thereof; and subjecting the aqueous solution to a solid-liquid separation, followed by washing with an organic solvent and/or water, in which the diluent and a basic compound are added to the aqueous solution containing the hydroxypivalaldehyde and/or the dimer thereof obtained by distilling the low boiling point component off so that a concentration of the hydroxypivalaldehyde and/or the dimer becomes 5 to 23% by mass, the concentration of formaldehyde becomes 0.2 to 2.5% by mass, and a pH value becomes 5.0 or more, the solution is crystallized at a temperature of 20 to 45°C and subjected to the solid-liquid separation. In this method, handling of a high-viscosity slurry and carrying out any complicated operation such as regeneration of an ion exchange resin are not required, so the high-purity HPA and/or the dimer thereof can be obtained in high yield with an energetically advantageous manner.