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(54) Title: PROCESS CONTROL FOR ACETIC ACID MANUFACTURE

(57) Abstract: A method of real time process control in a reaction system for the production of acetic acid from the carbonylation of methanol. Reaction system samples are collected from columns (30, 40, 50, 60, 70, 80) and/or transfer lines (120, 130, 140, 150, 160, 170, 180, 184, 186, 188, 190, 192, 194, 196, 197, 198, 199, 200, 210, 220) downstream of a reactor vessel (10), and the concentration of one or more components in the sample is measured by an infrared analyzer (90). The concentration measurements are then used to make adjustments in the concentration of components in the reaction system, directly or indirectly, such as by adjusting the temperature profile in a particular column (30, 40, 50, 60, 70, 80), the flow rate of solution in to or out of a column (30, 40, 50, 60, 70, 80), the vent gas rate out of the reactor (10) or a column (30, 40, 50, 60, 70, 80), or the addition or extraction of a component to or from the solution. For optimum process control, the measurements are transmitted to a control unit for real time analysis, and the adjustments are made substantially instantly after the infrared analysis.

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