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(54) Title: INTEGRATED PROCESS FOR THE PRODUCTION OF ACRYLIC ACIDS AND ACRYLATES

(57) Abstract: The invention relates to a process for producing an acrylate product, the process comprising the steps of: (a) reacting, in a first reaction zone, a reaction gas mixture A comprising methanol, oxygen, and at least one diluent gas other than steam to form a product gas mixture A comprising formaldehyde, steam, and at least one inert diluent gas other than steam; (b) combining at least a portion of the product gas mixture A and acetic acid to form a reaction gas mixture B comprising acetic acid, formaldehyde, steam, and at least one diluent gas other than steam; (c) reacting, in a second reaction zone, at least a portion of the acetic acid in the reaction gas mixture B with at least a portion of the formaldehyde in the reaction gas mixture B to form a product gas mixture B comprising acrylic acid, acetic acid, steam, and at least one inert diluent gas other than steam; and (d) separating at least a portion of the product gas mixture B to form an alkylating agent stream comprising at least 0.01 wt% alkylating agent and an intermediate acrylate product stream comprising acrylate product.

