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(71) Applicant: **ROHM AND HAAS COMPANY** [US/US];
400 Arcola Road, Collegeville, Pennsylvania 19426 (US).

(72) Inventors: **CHAKRABARTI, Reetam**; 400 Arcola Road, Collegeville, Pennsylvania 19426 (US). **NGO, Minh N.**; 400 Arcola Road, Collegeville, Pennsylvania 19426 (US). **ELDER, James**; 6519 State Highway 225, Deer Park, Texas 77536 (US).

(74) Agent: **MUTSCHLER, Brian L.**; The Dow Chemical Company, Intellectual Property, P. O. Box 1967, Midland, Michigan 48641-1967 (US).

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(54) Title: ACID CATALYZED SYNTHESIS OF METHYL ACRYLATE FROM ACRYLIC ACID AND METHANOL

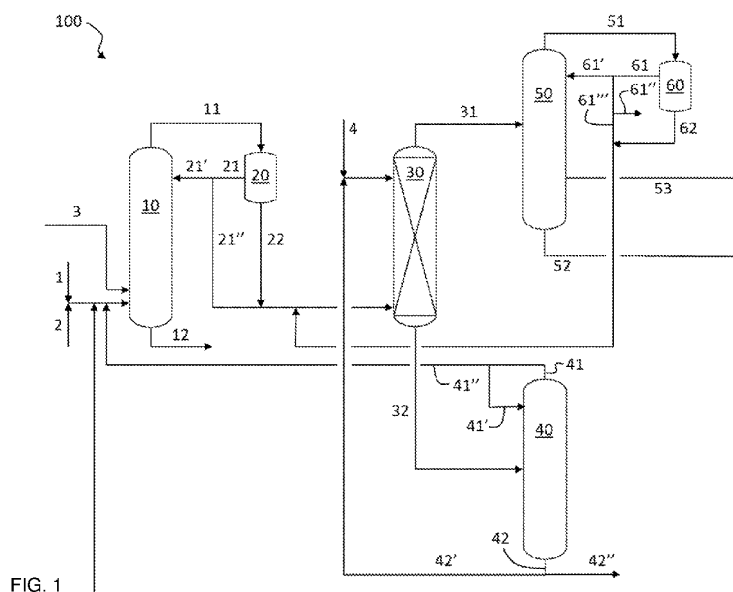


FIG. 1

(57) Abstract: A method for preparing methyl acrylate comprises heating in a reaction zone a mixture comprising acrylic acid, methanol, and an acid catalyst to react and form a reaction product comprising methyl acrylate which is vaporized with other light components and then fed to a distillation zone. A feed stream entering the reaction zone comprises methanol and acrylic acid in a molar ratio of greater than 1 and less than 2, and a residence time in the reaction zone ranges from 0.25 to 2 hours. A distillate from the distillation zone is condensed and phase-separated to form an organic phase comprising methyl acrylate and an aqueous phase. A portion of the organic phase is returned to the distillation zone as organic reflux. The remainder of the organic phase and the aqueous phase of the distillation zone is fed to an extraction column to form a methanol rich aqueous effluent and an organic effluent comprising methyl acrylate. The organic effluent from the extraction column is purified in a single finishing column, wherein a light ends stream is removed from the

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top of the finishing column, a bottoms stream is removed from the bottom of the finishing column, and methyl acrylate is removed from a side draw stream.