

Title (en)

METHOD FOR PURIFYING (METH)ACRYLIC ACID BY OXIDISING A GASEOUS SUBSTRATE

Title (de)

VERFAHREN ZUR AUFREINIGUNG VON (METH)ACRYLSÄURE DURCH OXIDIEREN EINES GASFÖRMIGEN SUBSTRATS

Title (fr)

PROCEDE DE PURIFICATION DE L'ACIDE (METH)ACRYLIQUE OBTENU PAR OXYDATION D'UN SUBSTRAT GAZEUX

Publication

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Application

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Priority

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Abstract (en)

[origin: FR2861725A1] Purification of (meth)acrylic acid obtained by catalytic or redox oxidation of a gaseous substrate comprising propane or isobutane, by absorption in a heavy hydrophobic solvent in the presence of a polymerisation inhibitor. The gaseous mixture for treatment comprises propane and/or propylene or isobutane and/or isobutene, oxidation products, the (meth)acrylic acid product, (meth)acrolein, tertiary butyl alcohol, water vapor, acetic acid, acrylic acid and heavy products from secondary reactions. The mixture is supplied to the base of an absorption column, the head being supplied counter-currently with a heavy hydrophobic absorption solvent and a polymerisation inhibitor. The product obtained from the column head is a mixture of light incondensable compounds comprising propane/propylene or isobutane/isobutene and oxidation products, and light condensable compounds including water, acetic and acrylic acids and acrolein; from the base are obtained (meth)acrylic acid, the absorption solvent, heavy products of secondary reactions, polymerisation inhibitors and minor amounts of light condensable products. The column effluent is then passed to a separation column in which the head flow provides light impurities which are directed to the lower part of the previous column, and the base flow provides (meth)acrylic acid in solution in the absorption solvent, a small amount of light condensable products, heavy secondary products and polymerisation inhibitor(s). The base liquid flow is directed to the head of the first section of a 3-part separation column; pure (meth)acrylic acid is withdrawn from the upper section (S3) whilst heavy intermediate compounds concentrate in the middle section (S2). At the base of (S1) is withdrawn the absorption fluid which is recycled to the first absorption column.

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