

Title (en)

METHOD FOR PRODUCING ACROLEIN AND/OR ACRYLIC ACID FROM PROPANE

Title (de)

VERFAHREN ZUR HERSTELLUNG VON ACROLEIN UND/ODER ACRYLSÄURE AUS PROPAN

Title (fr)

PROCEDE DE PRODUCTION D'ACROLEINE ET/OU D'ACIDE ACRYLIQUE A PARTIR DE PROPANE

Publication

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Application

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Priority

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Abstract (en)

[origin: DE19837517A1] In the production of acrolein and/or acrylic acid from propane, the oxygen required in reaction zone 1 (catalytic dehydrogenation to propene) is supplied as nitrogen-containing modified air containing less N₂ and more O₂ than normal air and some of the N₂ in the off-gas from further zones (propene oxidation) is removed before recycling to zone 1. A process for the production of acrolein (AC) and/or acrylic acid (AA) from propane, involving (a) partial oxydehydrogenation to propene with molecular oxygen in a first reaction zone (1) using homogeneous and/or heterogeneous catalysts, (b) further catalytic gas-phase oxidation of the unseparated product gas mixture in further reaction zone(s) (2) to give AC and/or AA, (c) separation of AC and/or AA and water from the product mixture and (d) recycling unreacted propane to zone 1. In this process, the molecular oxygen required in zone 1 (other than circulating oxygen) is added to the starting gas mixture in the form of nitrogen-containing modified air with a lower N₂ content and a higher O₂ content than normal air, and at least some of the molecular N₂ in the residual gas stream is removed before this stream is recycled to zone 1.

IPC 1-7

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IPC 8 full level

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