

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

EP 1109773 A1 20010627 (DE)

Application

EP 99941556 A 19990810

Priority

- DE 19837518 A 19980819
- EP 9905791 W 19990810

Abstract (en)

[origin: DE19837518A1] In the production of acrolein and/or acrylic acid from propane, the oxygen required in reaction stage 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 stage 1 product is removed before this product is used in further stages (propene oxidation). A process for the production of acrolein (AC) and/or acrylic acid (AA) from propane, involving (1) partial oxydehydrogenation to propene with molecular oxygen using homogeneous and/or heterogeneous catalysts and (2) catalytic gas-phase oxidation of the propene-containing product gas in further stage(s) to give AC and/or AA. In this process, the molecular oxygen required in stage 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 product mixture from stage 1 is removed before this mixture is used in stage(s) 2.

IPC 1-7

C07C 57/05; **C07C 45/35**; **C07C 5/333**

IPC 8 full level

C07C 27/12 (2006.01); **C07B 61/00** (2006.01); **C07C 5/48** (2006.01); **C07C 11/06** (2006.01); **C07C 45/33** (2006.01); **C07C 45/35** (2006.01); **C07C 47/22** (2006.01); **C07C 51/215** (2006.01); **C07C 51/25** (2006.01); **C07C 57/05** (2006.01); **C07C 57/055** (2006.01)

CPC (source: EP US)

C07C 45/33 (2013.01 - EP US); **C07C 45/35** (2013.01 - EP US); **C07C 51/215** (2013.01 - EP US); **C07C 51/252** (2013.01 - EP US); **Y02P 20/582** (2015.11 - EP US)

Citation (search report)

See references of WO 0010960A1

Designated contracting state (EPC)

BE DE DK FR NL

DOCDB simple family (publication)

DE 19837518 A1 20000224; AU 5512599 A 20000314; BR 9914611 A 20010807; CN 1312789 A 20010912; EP 1109773 A1 20010627; JP 2002523389 A 20020730; US 6388129 B1 20020514; WO 0010960 A1 20000302

DOCDB simple family (application)

DE 19837518 A 19980819; AU 5512599 A 19990810; BR 9914611 A 19990810; CN 99809668 A 19990810; EP 9905791 W 19990810; EP 99941556 A 19990810; JP 2000566234 A 19990810; US 76322301 A 20010220