

Title (en)

METHOD FOR PRODUCING ACROLEIN BY HETEROGENEOUS CATALYTIC GAS-PHASE PARTIAL OXIDATION OF PROPENE

Title (de)

VERFAHREN ZUR HERSTELLUNG VON ACROLEIN DURCH HETEROGEN KATALYSIERTE GASPHASEN-PARTIALOXIDATION VON PROPEN

Title (fr)

PROCEDE DE FABRICATION D'ACROLEINE PAR OXYDATION PARTIELLE EN PHASE GAZEUSE CATALYTIQUE HETEROGENE DU PROPENE

Publication

EP 1144352 A2 20011017 (DE)

Application

EP 00912429 A 20000115

Priority

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- EP 0000304 W 20000115

Abstract (en)

[origin: DE19902562A1] A mixture containing propene and oxygen (O₂) is passed at elevated temperature through: (i) a zone containing a first catalyst in the solid aggregate state to oxidize part of the propene to acrolein at a propene/O₂ molar ratio of over 1 and (ii) other zone(s) with solid catalyst, with addition of O₂, so that ≥ 90 mole-% of the propene reacts with ~ 80 mole-% selectivity to acrolein. In the production of acrolein by gas phase partial oxidation of propene with oxygen (O₂) over a heterogeneous catalyst in the solid aggregate state: (i) a mixture containing propene and O₂ in over 1:1 molar ratio is passed at elevated temperature through a first reaction zone containing a first catalyst in the solid aggregate state to oxidize part of the propene to acrolein, then (ii) the reaction mixture is passed at elevated temperature through other reaction zone(s) with a solid catalyst charge, with addition of (gas containing) O₂ in at least one of the later zones to increase the O₂/propene molar ratio, so that ≥ 90 mole-% of the propene fed to zone I reacts with ~ 80 mole-% selectivity to acrolein. Independent claims are also included for (a) the production of acrylic acid from propene, including this process; (b) apparatus for the gas phase oxidation of propene to acrolein; (c) apparatus for the gas phase oxidation of propene to acrolein and then of acrolein to acrylic acid.

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C07C 45/35

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