Title (en)

METHOD FOR PRODUCING ACRYLIC ACID FROM PROPANE, IN THE ABSENCE OF MOLECULAR OXYGEN

Title (de)

VERFAHREN ZUR HERSTELLUNG VON ACRYLSÄURE AUS PROPAN IN ABWESENHEIT VON MOLEKULAREM SAUERSTOFF

Title (fr)

PROCEDE DE FABRICATION D ACIDE ACRYLIQUE A PARTIR DE PROPANE EN L'ABSENCEED OXYGENE MOLECULAIRE

Publication

EP 1539668 A1 20050615 (FR)

Application

EP 03769539 A 20030829

Priority

- FR 0302608 W 20030829
- FR 0211196 A 20020910

Abstract (en)

[origin: FR2844262A1] Acrylic acid production by two-stage catalytic reaction of propane and steam with continuous catalyst regeneration comprises using a catalyst comprising molybdenum, vanadium, tellurium or antimony, oxygen and at least one other element selected from niobium, tantalum, tungsten, titanium, aluminum, zirconium, chromium, manganese, iron, ruthenium, cobalt, rhodium, nickel, palladium, platinum, antimony, bismuth, boron, indium and cerium. Acrylic acid production by feeding an oxygen-free gas comprising propane and steam and optionally an inert gas into a first reactor containing a transported bed of catalyst, separating the gas from the catalyst, passing the catalyst to a regenerator, feeding the gas into a second reactor containing a transported bed of catalyst, separating the gas from the catalyst, recovering acrylic acid from the gas, passing the catalyst to a regenerator and recycling the regenerated catalyst to the first and second reactors comprises using a catalyst comprising molybdenum, vanadium, tellurium or antimony, oxygen and at least one other element selected from niobium, tantalum, tungsten, titanium, aluminum, zirconium, chromium, manganese, iron, ruthenium, cobalt, rhodium, nickel, palladium, platinum, antimony, bismuth, boron, indium and cerium.

IPC 1-7

C07C 51/215; C07C 57/05; C07C 51/16; B01J 23/16

IPC 8 full level

B01J 27/057 (2006.01); **B01J 23/16** (2006.01); **B01J 37/00** (2006.01); **B01J 38/12** (2006.01); **C07B 61/00** (2006.01); **C07C 27/24** (2006.01); **C07C 51/16** (2006.01); **C07C 51/215** (2006.01); **C07C 57/05** (2006.01)

CPC (source: EP KR US)

B01J 23/92 (2013.01 - EP US); **B01J 27/30** (2013.01 - EP US); **B01J 38/12** (2013.01 - EP US); **C07C 27/24** (2013.01 - KR); **C07C 51/16** (2013.01 - EP KR US); **C07C 51/215** (2013.01 - KR); **C07C 57/04** (2013.01 - KR); B01J 23/002 (2013.01 - EP US); B01J 37/0045 (2013.01 - EP US); B01J 2523/00 (2013.01 - EP US); Y02P 20/584 (2015.11 - EP US)

C-Set (source: EP US)

1. **C07C 51/16** + **C07C 57/04**
2. B01J 2523/00 + B01J 2523/41 + B01J 2523/55 + B01J 2523/56 + B01J 2523/64 + B01J 2523/68

Citation (search report)

See references of WO 2004024664A1

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LU MC NL PT RO SE SI SK TR

DOCDB simple family (publication)

FR 2844262 A1 20040312; **FR 2844262 B1 20041015**; AU 2003278226 A1 20040430; CN 100345811 C 20071031; CN 1681765 A 20051012; EP 1539668 A1 20050615; JP 2005538171 A 20051215; KR 20050053645 A 20050608; US 2006004225 A1 20060105; US 7282604 B2 20071016; WO 2004024664 A1 20040325

DOCDB simple family (application)

FR 0211196 A 20020910; AU 2003278226 A 20030829; CN 03821373 A 20030829; EP 03769539 A 20030829; FR 0302608 W 20030829; JP 2004535576 A 20030829; KR 20057004119 A 20050310; US 52705905 A 20050309