

Title (en)
METHOD OF PRODUCING EPOXY RESINS BY GAS PHASE EPOXIDATION

Title (de)
VERFAHREN ZUR HERSTELLUNG VON EPOXIDEN DURCH GASPHASENOXIDATION

Title (fr)
PROCEDE DE PREPARATION DE RESINES EPOXY PAR OXYDATION EN PHASE GAZEUSE

Publication
EP 1056735 A1 20001206 (DE)

Application
EP 99964503 A 19991125

Priority
• DE 19854615 A 19981126
• EP 9909131 W 19991125

Abstract (en)
[origin: US6392065B1] The invention relates to a method of producing epoxy resins from hydrocarbons with olefinic double bonds, especially alkenes, by heterogeneous catalyzed oxidation in the gaseous phase. According to said method, an oxidic solid catalyst is released which contains iron as its active component at a concentration of 0.001-1% and alkali and/or alkaline earth elements as the promoters. N₂O is used as the oxidizing agent. The granulated oxidic solid catalyst, especially on the basis of SiO₂ as the carrier, has a specific surface of greater than 50 m²/g. The ratio of the concentrations of the active components to the promoter components is preferably between 1:100 and 10:1. The partial oxidation of hydrocarbons with olefinic double bonds, especially propene, results in propene selectivities of 10-70% at reaction temperatures of 300-500° C. and conversions of 2-30%. The catalyst repeatedly used in the reaction process can easily be regenerated by oxidation in air so that it retains its high activity even after 50 or more regeneration cycles.

IPC 1-7
C07D 301/03

IPC 8 full level
C07D 301/03 (2006.01)

CPC (source: EP KR US)
C07D 301/08 (2013.01 - KR); **C07D 301/14** (2013.01 - EP US)

Citation (search report)
See references of WO 0031056A1

Designated contracting state (EPC)
AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE

DOCDB simple family (publication)
US 6392065 B1 20020521; AT E216697 T1 20020515; BR 9907251 A 20001114; CN 1296479 A 20010523; DE 19854615 A1 19990701; DE 19854615 C2 20010809; DE 59901297 D1 20020529; EP 1056735 A1 20001206; EP 1056735 B1 20020424; KR 20010040401 A 20010515; WO 0031056 A1 20000602

DOCDB simple family (application)
US 58263200 A 20000726; AT 99964503 T 19991125; BR 9907251 A 19991125; CN 99802395 A 19991125; DE 19854615 A 19981126; DE 59901297 T 19991125; EP 9909131 W 19991125; EP 99964503 A 19991125; KR 20007008093 A 20000725