

Title (en)
METHOD OF PRODUCING EPOXIDES BY GAS PHASE EPOXIDATION

Title (de)
VERFAHREN ZUR HERSTELLUNG VON EPOXIDEN DURCH GASPHASENOXIDATION

Title (fr)
PROCEDE DE PREPARATION D'EPOXIDES PAR OXYDATION EN PHASE GAZEUSE

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Application
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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.

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Citation (examination)
• WO 9830552 A1 19980716 - ARCO CHEM TECH [US], et al
• WO 9800413 A1 19980108 - DOW CHEMICAL CO [US], et al
• COTTON/WILKINSON: "Anorganische Chemie", 1980, VERLAG CHEMIE, WEINHEIM

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