

A method is provided for fluidizing and vaporizing particulate solid coating reactants by first establishing a fluidized bed of dispersed particulate solid coating reactants and thereafter drawing a volume of fluidizing gas and suspended particulate solid coating reactant to a vaporizer while mixing an additional volume of gas therewith and then vaporizing the dispersed particulate solid coating reactant in the reactant-gas mixture. The reactant-gas mixture is then directed into contact with a substrate to be coated in order to deposit a film thereon.

4351773

**PREPARATION OF MALEIC ANHYDRIDE FROM BUTANE USING FLUIDIZED VANADIUM-PHOSPHOROUS-OXIDE CONTAINING CATALYSTS**

Ernest C Milberger; Michael F Lemanski; Gregory G Spitnale assigned to The Standard Oil Company

A process is provided for the preparation of fluid bed oxidation catalysts containing the mixed oxides of vanadium and phosphorus, comprising the steps of preparing the catalyst precursor, comminuting the precursor, introducing the precursor into water to form an aqueous slurry and

spray drying the slurry. The resulting microspheroidal particles are excellent fluid bed catalysts for the preparation of maleic anhydride from 4-carbon atom hydrocarbons.

4351646

**CYCLIC PROCESS FOR PRODUCING METHANE FROM CARBON MONOXIDE WITH HEAT REMOVAL**

Albert Frost; Chang-le Yang assigned to Union Carbide Corporation

Carbon monoxide-containing gas streams are converted to methane by a cyclic, essentially two-step process in which said carbon monoxide is disproportionated to form carbon dioxide and active surface carbon deposited on the surface of a catalyst, and said carbon is reacted with steam to form product methane and by-product carbon dioxide. The exothermic heat of reaction generated in each step is effectively removed during each complete cycle so as to avoid a build up of heat from cycle-to-cycle, with particularly advantageous techniques being employed for fixed bed, tubular and fluidized bed reactor operations.

For information about PATSEARCH® and VIDEO PATSEARCH®:

Pergamon International  
Information Corporation  
1340 Old Chain Bridge Road  
McLean, Virginia 22101  
USA  
Telephone (703) 442-0900  
Telex: 90-1811

Pergamon InfoLine  
Limited  
12 Vandy Street  
London EC2A 2DE  
England  
Telephone: (01) 377 4650  
Telex: 88114614

Pergamon Press  
Canada Ltd  
150 Consumers Road Suite 104  
Willowdale, Ontario  
Canada M2J 1P9  
Telephone: (416) 497-8337  
Telex: 065-25460

Patent Section Editors:

Pergamon Press, Inc.  
Maxwell House  
Fairview Park  
Elmsford, New York 10523

Pergamon Press Ltd.  
Headington Hill Hall  
Oxford OX3 0BW  
England