

## [12] Patent

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<p>[21] Application No.: GCC/P/2000/958</p> <p>[22] Filing Date: 15/10/2000</p> <p>[72] Inventor: Ermanno Filippi</p> <p>[73] Owner: Methanol Casale S. A., Via Sorengo 7, CH-6900 Lugano-Besso, Switzerland</p> <p>[74] Agent: Suleiman Ibrahim Al-Ammar</p>	<p>[51] Int. Cl.<sup>7</sup>: B01J 12/00</p> <p>[56] Cited Documents:</p> <ul style="list-style-type: none"> <li>- DE 3708957 A (LINDE AG) 06 October 1988</li> <li>- DE 855258 A (IMPERIAL CHEMICAL INDUSTRIES LIMITED) 10 November 1952</li> <li>- EP 0534195 A (BASF AKTIENGESELLSCHAFT) 31 March 1993</li> <li>- US 3663179 A (MEHTA et al.) 16 May 1972</li> <li>- WO 94/1274 A (SHELL INTERNATIONALE RESEARCH MAATSCHAPPIJ B. V.) 09 June 1994</li> </ul>

### [54] ISOTHERMAL REACTOR FOR EXOTHERMIC OR ENDOTHERMIC HETEROGENEOUS REACTIONS

[57] Abstract: An isothermal reactor for carrying out heterogeneous exothermic or endothermic reactions, comprises within a catalytic bed (3) housed in an appropriate outer shell (2), at least one tube (13) for the passage of a cooling or heating fluid which advantageously extends within the bed (3) along a plane substantially perpendicular with respect to opposed perforated side walls (4, 5) of the catalytic bed.

No. of claims: 11    No. of figures: 8

