## CLAIMS

*What is claimed is:*

1. ~~In a~~ A fluid bed reactor system for the manufacture of xylene by an alkylation reaction comprising contact of an alkylating agent with an aromatic hydrocarbon selected from benzene, toluene, and mixtures thereof, in the presence of a catalyst that promotes said alkylation reaction, the improvement comprising the staged injection of at least one of said alkylating agent and said aromatic hydrocarbon, wherein said reactor system is characterized by plural injection stages separated by baffle material, said baffle material characterized as suitable to decrease at least one of gas phase back-mixing, by-pass phenomena, and gas bubble size in the manufacture of xylene by said alkylation reaction.

2. The fluid bed reactor system of Claim 1, wherein said alkylating agent is introduced downstream of benzene and/or toluene by said staged injection.

3. The fluid bed reactor system of Claim 1, wherein said alkylating agent is selected from methanol, dimethyl ether, and mixtures thereof.

4. The fluid bed reactor system according to ~~any one of the preceding claims~~ Claim 1, wherein said catalyst comprises a phosphorus-containing molecular sieve that has been steam treated prior to said contacting.

5. The fluid bed reactor system of Claim 1, further comprising at least one internal cyclone separator in said fluid bed reactor system.

6. The fluid bed reactor system of Claim 1, wherein said baffle material comprises structured packing.

7. The fluid bed reactor system of Claim 1, further comprising at least one external cyclone separator in said fluid bed reactor system.

8. ~~In a fluidized bed~~ A process for the manufacture of xylene by an alkylation reaction comprising contact of an alkylating agent with an aromatic hydrocarbon selected from benzene, toluene, and mixtures thereof, in the presence of a catalyst that promotes said alkylation reaction, said process characterized by the generation of gas bubbles within a fluid bed reactor system, the improvement comprising the introduction of at least one of said reactants by injection at plural locations within said reactor system, each location defined as a stage spaced apart from at least one other stage, and wherein at least one stage is separated from the at least one other stage by baffle material so as to decrease at least one of gas phase back-mixing, by-pass phenomena, and gas bubble size.

9. The process of Claim 8, wherein said alkylating agent is introduced by said injection at plural locations and wherein said aromatic hydrocarbon is introduced to said process independently of said alkylating agent.

10. The process of Claim 8, wherein said alkylating agent comprises methanol and/or dimethyl ether.

11. The process of Claim 8, wherein said catalyst is selective for the production of paraxylene relative to meta- and orthoxylene.

12. The process of Claim 8, wherein said catalyst comprises a phosphorus-containing molecular sieve that has been steam treated prior to said contacting.

13. The process according to ~~any one of Claims 8-12~~ Claim 8, comprising a single reactor having plural stages and at least one stage spaced apart from at least one other stage by structured packing.

14. The process of Claim 8, wherein said fluid bed reactor system comprises at least one internal cyclone separator.

15. The process of Claim 8, wherein said fluid bed reactor system comprises at least one external cyclone separator.