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(54) Title: ALKYLATING PROCESS

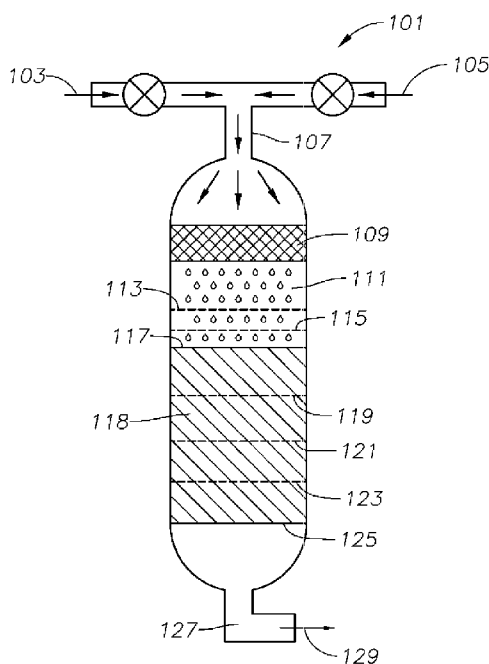


FIG. 1

(57) Abstract: An alkylating process such as hydroalkylating process comprising feeding a gas material and a liquid material into the reactor, distributing the liquid material to the upper surface of a bed of a catalyst substantially uniformly. The substantial uniform distribution of the liquid material to the upper surface allows for substantially uniform distribution of liquid reaction medium in the bed, thereby preventing hot spot and undesirable continuous liquid zone, both of which can cause the production of undesired by-products. The invention is particularly useful for the hydroalkylation reaction of benzene in making cyclohexylbenzene, which can be used for making cyclohexanone and phenol.