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(54) Title: PROCESS FOR PRODUCING PHENOL AND CYCLOHEXANONE

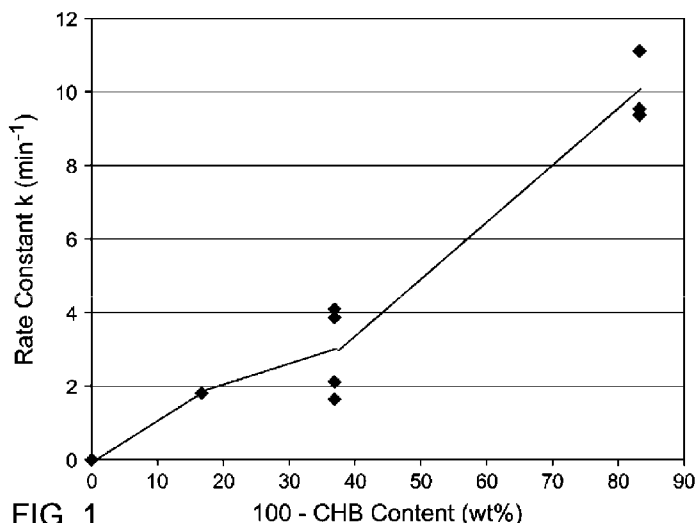


FIG. 1

(57) Abstract: In a process for producing phenol and cyclohexanone, a cleavage feed containing greater than 40 wt% and no greater than 95 wt% cyclohexyl-1-phenyl-1-hydroperoxide, and at least 5 wt% and less than 60 wt% cyclohexylbenzene is mixed with at least phenol, cyclohexanone, water, and sulfuric acid to produce a cleavage reaction mixture containing from 15 wt% to 50 wt% phenol, from 15 wt% to 50 wt% cyclohexanone, from 1 wt% to 10 wt% cyclohexyl-1-phenyl-1-hydroperoxide, from 5 wt% to 60 wt% cyclohexylbenzene, from 0.1 wt% to 4 wt% water, and from 10 wppm to 1000 wppm sulfuric acid. The cleavage reaction mixture is then reacted at a temperature from 30°C and to 70°C, and a pressure of at least 1 atmosphere for a time sufficient to convert at least 50% of said cyclohexyl-1-phenyl-1-hydroperoxide in said cleavage reaction mixture and produce a cleavage effluent containing phenol and cyclohexanone.

**Declarations under Rule 4.17:**

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- *as to the applicant's entitlement to claim the priority of the earlier application (Rule 4.17(iii))*

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