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(54) Title: PROCESS FOR PRODUCING PHENOL AND/OR CYCLOHEXANONE FROM CYCLOHEXYLBENZENE

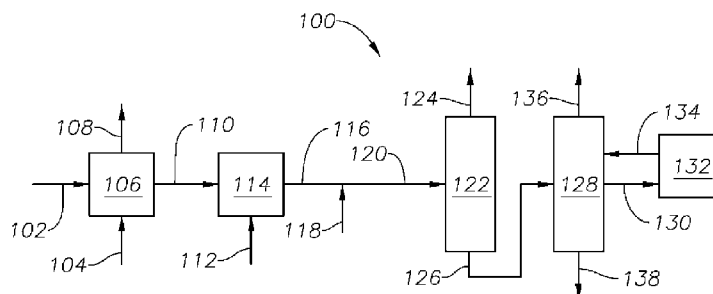


FIG. 1

(57) Abstract: In a process for producing phenol and/or cyclohexanone, cyclohexylbenzene is contacted with an oxygen-containing gas to produce an oxidation effluent containing cyclohexylbenzene hydroperoxide. At least a portion of the cyclohexylbenzene hydroperoxide is then contacted with a cleavage catalyst to produce a cleavage effluent containing phenol and cyclohexanone and by-products including phenylcyclohexanol. The cleavage effluent or a neutralized product thereof also comprises at least one compound comprising an atom not being carbon, hydrogen or oxygen, which is separated from the cleavage effluent and/or the neutralized product thereof to leave a cleavage fraction lean in the compound comprising an atom not being carbon, hydrogen or oxygen and containing at least a portion of the phenylcyclohexanol. At least a portion of the phenylcyclohexanol is then contacted with a dehydration catalyst comprising a molecular sieve of the MCM-22 type to convert at least a portion of the phenylcyclohexanol to phenylcyclohexene.