

ABSTRACT

Disclosed are a device and method for oxidizing an organic substance, particularly a method for preparing ethylbenzene hydroperoxide by reacting ethylbenzene with an oxygen-containing gas. The device comprises a vertical bubbling reactor (1) and a horizontal bubbling reactor (11) connected to a reaction product outlet of the vertical bubbling reactor (1), wherein the horizontal bubbling reactor (11) is internally provided with a plurality of reaction compartments (21) which are arranged along the axial direction thereof, and a liquid phase channel (22) is provided between adjacent reaction compartments (21).

10 Fig. 1