

Abstract

The invention relates to a process for the oxidation of organic compounds by means of oxygen, in which, in a first step, the organic compound and at least part of the oxygen required for the oxidation are introduced into a first reaction zone which is operated isothermally and with backmixing and, in a second step, the reaction mixture from the first reaction zone is introduced into a second reaction zone which is operated adiabatically. The invention further relates to a reactor for carrying out the process, which comprises at least one isothermal reaction zone (3, 5) and an adiabatic reaction zone (7) which are arranged in a reactor shell (8), with each isothermal reaction zone (3, 5) being configured in the form of a jet loop reactor and the adiabatic reaction zone (7) being configured as a bubble column.

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(Figure)