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CATALYTIC OXIDATION OF METHANE REACTION KINETICS

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ABSTRACT

The kinetic laws of the catalytic oxychlorination reaction of methane in the study (CuCl₂) x · (KCl) y · (ZnCl₂) z · (MnCl₂) k in the catalyst, in the ratio of starting materials N₂: CH₄: HCl: O₂ = 5: 12: 2: 1 mol, Studied at a pressure of 1 MPa. As a result of the study, the following optimal conditions for the oxidation of methane were determined: catalyst composition, (CuCl₂) x (KCl) y (ZnCl₂) z (MnCl₂) k, size of catalyst fractions 0.7 ÷ 1.2 mm, P = 0, 1MPa, gas flow rate 17.2 l / h, contact time 0.8 sec, linear flow rate 10.2 cm / sec. To calculate the activation energy

$$E_a = - (R \cdot \ln (k_-(T_1) / k_-(T_2)) \cdot T_1 \cdot T_2) / ((T_2 - T_1))$$

formula was used.

KEYWORDS: Widely, Product, Extraction, Production, And, From, Crystal, Practice, Methods, Thermal, Introduced, Selectivity

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