



METHYL ISOBUTYL KETONE COMBUSTION OVER Pt/Al₂O₃ CATALYST

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Abstract

Catalytic combustion of methyl isobutyl ketone in diluted air streams over Pt/Al₂O₃ commercial catalyst was experimentally investigated. The experiments were carried out at space velocities between 180 000 – 600 000 cm³ / (g_{cat}·h) and ketone concentrations in the range of 900 – 2600 ppmv. On the studied domain of working parameters, carbon monoxide was not detected, although some organic intermediates were formed (especially acetic acid). Their presence was detected in the product mixture much behind the temperature corresponding to complete conversion of MIBK. The results evidenced that, depending on the gas flowrate, complete combustion to carbon dioxide occurs at temperatures of minimum 350 °C.

Keywords: catalysis, combustion, ketone, kinetics, platinum on alumina

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