

Ozone decomposition on Ni/Pd catalytic systems synthesized by ERM

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Ozone is widely used in the industrial and environmental processes such as semiconductor manufacturing, deodorization, disinfection and water treatment [1]. The residual ozone must be removed because on the ground level it is an air contaminant [2]. An effective method for purification of waste gases containing ozone is the heterogeneous catalytic decomposition [3]. A range of catalytic samples made by extractive-pyrolytic method and based on nickel and palladium nanoparticles supported on inorganic supports such as activated carbon, silica, alumina and aluminium oxide hydroxide were tested in the reaction of ozone decomposition. Kinetic experiments at dry and humid ozone decomposition over alumina supported Ni/Pd catalytic samples were performed at O₃/O₂ flow rates between 6.0 and 24.0 l h⁻¹. The properties of the catalysts were confirmed by using various characterization techniques as BET, XRD, SEM and TEM.

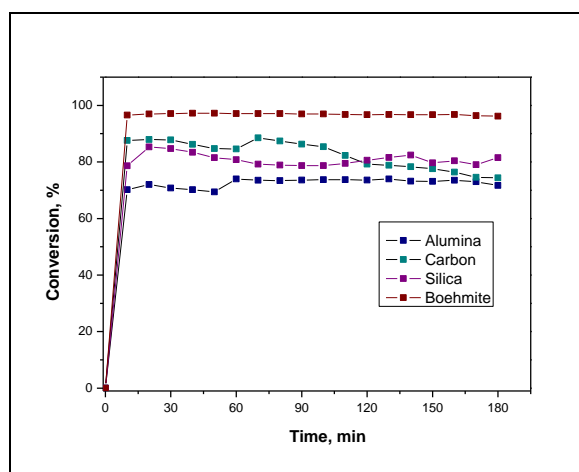


Fig.1 Ozone conversion as function of ozonation time for the Ni/Pd catalytic samples denoted in graph legend

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References

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