

Investigation of H₂S Gas Destruction Potential Using Zr Doped Nanoparticles

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Due to its toxicity, destruction of H₂S gas has been an important topic of researchers. Many studies have been carried for investigating various techniques for the removal of this gas. One of those techniques is catalytic and photocatalytic destruction of H₂S gas using various catalysts including TiO₂ owing to its significant potential for degradation of various pollutants. This study investigates the destruction potential of Zr doped TiO₂ for the abatement of H₂S gas. The catalysts were characterized using different techniques like XRD, SEM, XRF. The catalytic experiments were performed using fixed bed catalyst system. The samples were analyzed using GC-MC technique and it was revealed that the Zr doping of TiO₂ did not favour positively towards enhancing the H₂S destruction potential as found in other studies.

Biography:

Dr. Naeem Shahzad's research focused on the Environmental applications of Nanotechnology for the abatement of air pollution. He completed his PhD focusing on the destruction of H₂S gas using TiO₂ nanomaterials. Besides, he also validated his experimental results through theoretical modeling using Density Functional Theory (DFT) Studies. He used DFT calculations for studying different adsorption and dissociation mechanism of H₂S on the surface of TiO₂. He has numerous International publications in reputed journals.