

The importance of pre-treatment of spent hydrotrating catalysts on metals recovery

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Keywords: spent catalyst; metals recovery; foulant elements.

This work describes a three-step of pre-treatment route for processing spent commercial NiMo/Al₂O₃ catalysts. The extraction of soluble coke with n-hexane and/or leaching of foulant elements with oxalic acid were performed before burning insoluble coke under air. Oxidized catalysts were leached with 9 mol L⁻¹ sulfuric acid. Iron was the only foulant element partially leached by oxalic acid. The amount of insoluble matter in sulfuric acid was drastically reduced when iron and/or soluble coke were previously removed. Losses of active phase metals (Ni, Mo) during leaching with oxalic acid were compensated by the increase of their recovery in the sulfuric acid leachate [1].

References

- [1] PEREIRA, A. L. S.; SILVA, C. N.; AFONSO, J. C.; MANTOVANO, J. L.. The Importance of Pretreatment of Spent Hydrotreating Catalysts on Metals Recovery. **Revista Química Nova**, 34(1), 145-150, 2011.