

Qualitative and Quantitative Characterization of Generated Waste in Nouri Petrochemical Complex, Assaluyeh, Iran

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Abstract : In recent years, different petrochemical complexes have been established to produce aromatic compounds. Among them, Nouri Petrochemical Complex (NPC) is the largest producer of aromatic raw materials in the world, and is located in south of Iran. Environmental concerns have been raised in this region due to generation of different types of solid waste generated in the process of aromatics production, and subsequently, industrial waste characterization has been thoroughly considered. The aim of this study is qualitative and quantitative characterization of industrial waste generated in the aromatics production process and determination of the best method for industrial waste management. For this purpose, all generated industrial waste during the production process was determined using a checklist. Four main industrial wastes were identified as follows: spent industrial soil, spent catalyst, spent molecular sieves and spent N-formyl morpholine (NFM) solvent. The amount of heavy metals and organic compounds in these wastes were further measured in order to identify the nature and toxicity of such a dangerous compound. Then industrial wastes were classified based on lab analysis results as well as using different international lists of hazardous waste identification such as EPA, UNEP and Basel Convention. Finally, the best method of waste disposal is selected based on environmental, economic and technical aspects.

Keywords : aromatic compounds, industrial soil, molecular sieve, normal formyl morpholine solvent

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