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7th Annual Congress on

Materials Research and Technology

February 20-21, 2017

Berlin, Germany

Materials in Industry

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Statement of the Problem: Environmental pollution by synthetic polymers, such as waste plastics and water-soluble synthetic polymers in waste water has been recognized as a major problem. In developing countries, environmental pollution by synthetic polymers has assumed dangerous proportions. Because of the environmental problems caused by petroleum-based non-degradable materials that are currently used, the considerable amount of research is conducted at present in developing biodegradable polymers and composites.

The purpose of this study is solving these problems, where the biodegradability is including into polymers in everyday use through slight modifications of their structures by blending them with biopolymers derived from chitin, chitosan. Where the biocompatibility and biodegradability of these polymers are limited than those of natural polymers such as cellulose, chitin, chitosan and their derivatives. some biodegradable polymers such as: chitosan, chitin, cellulose and polyvinyl alcohol(PVAc) and their applications in petroleum field, e.g., treatment of waste water, oil recovery, removal the heavy metals and others.

Methodology & Theoretical Orientation: This treatment can occur by processes of flocculation/flotation, adsorption, or complexation.

Findings: By any treatment processes, the use of polymeric materials with quite different characteristics due to the different treatment mechanisms leads to high efficiency.

Conclusion & Significance: The developments in the synthesis of biodegradable adsorbents containing polysaccharides, in particular modified biopolymers derived from chitin, chitosan and artificial polymer such as polyvinyl alcohol are described and their advantages for the removal of pollutants from the wastewater discussed.

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