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## COMPARATIVE STUDY OF THE ADSORPTION-DESORPTION CYCLES OF HEXANE OVER HYPERCROSSLINKED POLYMERIC ADSORBENTS AND ACTIVATED CARBON

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### Abstract

In this work, the behavior of *n*-hexane vapors in the adsorption-desorption cycles of non-functionalized polymeric adsorbents (MN 202 and MN 250) and granular activated carbon (AC 20) was studied. The adsorption experiments were performed in a fixed bed column, under dynamic conditions, at 30°C and atmospheric pressure. The inlet concentration of *n*-hexane in the air streams was 0.115 mg/cm<sup>3</sup> (32500 ppm) and the space velocity was 2.75 s<sup>-1</sup>. Also, desorption experiments were performed in dynamic conditions by gas stripping at 120°C. It was observed that the AC 20 losses about 15% of its adsorption capacity for each cycles, while the polymeric adsorbents (MN 250 and MN 202) lose only 5% per cycle. Also, the time required for a complete regeneration of polymeric adsorbents MN 202 and MN 250 was much shorter that for activated carbon AC 20 (40, 60 and 300 minutes, respectively).

*Key words:* VOCs, hexane, adsorption, desorption, AC20, MN 202, MN 250

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