

1. Adsorption and desorption processes

OBJECTIVES

In the present, adsorption is a very important separation process, competitive with other non-conventional operations as rectification, extraction and absorption. Its advantages are being a clean, highly selective and low cost technology. The increasing advances in research, including synthesis and characterization of new adsorbent solids have led to several industrial applications of this technique. In this group the aims of the adsorption line of research are: (i) organic pollutants adsorption in liquid and vapour phases, (ii) liquid phase hydrocarbon mixture separation, (iii) gasoline and fuel desulfurization, and (iv) carbon dioxide, nitrogen and methane mixtures separation, focused in natural gas purification processes. This group has extensive experience in synthesis and modification of zeolite-type materials and carbon materials, which are being applied with the objectives previously mentioned.