

عنوان مقاله:

Synthesis and characterization of activated carbon from Tobacco residues

محل انتشار:

دومین کنفرانس بین المللی فناوری های نوین در علوم (سال: 1397)

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خلاصه مقاله:

In order to select a proper adsorbent for eliminating organic compounds from the waters, some parameters should pay attention. An adsorbent should be cost-effective, should be easily available and should have proper characteristics regarding adsorption. It is necessary to find a method that utilizes materials that are green and have no toxicity. These materials should also have acceptable surface area and reactive surface atom. One of these materials which is commonly applied in industries is active carbon. There is homogeneity in its structure and its microporous. Its surface area is acceptable and it is stable when exposed to radiation [1]. The source of produced activated carbon was tobacco residues that provided from cigarette making factory (Sari, Mazandaran, Iran). The porosity and the specific surface area of the active carbons have been measured by N₂ adsorption at 77 K, utilizing Micrometrics ASAP 2010, the automatics adsorption volumetric system. In Fig. 1a, the N₂ adsorption and desorption isotherms of the TRAC is presented. The results reveal that when the relative pressure goes higher, the amount of adsorbed N₂ will go higher rapidly. In accordance with the IUPAC, this isotherm should be regarded as Type IV. A capillary condensation step which is between p/p^0 of 0.007 - 0.992 is revealed by the hysteresis loop. This indicates that a meso-porous structure exists in the TRAC that has developed properly. Fig. 1b presents the distribution of the pore sizes from the BJH and it reveals a thinrange which changed from 1-10 nm

کلمات کلیدی:

Tobacco residues; Activated carbon; Porosity; BET surface area

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