

RINGKASAN

Adsorpsi Ion Na^+ Dan K^+ Dengan Karbon Aktif Merck Dan Norit

Telah dilakukan penelitian adsorpsi karbon aktif merck dan norit terhadap ion Na^+ dan K^+ . Adsorpsi ini dibandingkan dengan adsorpsi terhadap metilen blue. Untuk mempelajari kemampuan adsorpsi karbon aktif juga telah ditentukan luas permukaan, distribusi pori, serta sifat kimia permukaan karbon aktif merck dan norit.

Untuk mengetahui jumlah adsorbat logam yang teradsorpsi dilakukan analisa kuantitatif dengan spektroskopi serapan atom, sedang adsorbat metilen blue dengan spektroskopi UV-VIS. Luas permukaan dan distribusi pori karbon aktif diketahui dengan alat penganalisa luas permukaan BET. Sifat kimia permukaan karbon aktif diketahui dengan membuat spektra IR dari karbon aktif sebelum dan sesudah adsorpsi.

Luas permukaan karbon aktif merck dan norit masing-masing $782,728605 \text{ m}^2/\text{g}$ dan $9,275572 \text{ m}^2/\text{g}$. Karbon aktif Merck dan norit mengadsorpsi metilen blue dengan baik masing-masing sebesar $4,700 \text{ ppm}$ dan $4,467 \text{ ppm}$ (pada konsentrasi larutan metilen blue 5 ppm). Karbon aktif merck dapat mengadsorpsi ion K^+ sebesar $1,106 \text{ ppm}$ (pada konsentrasi larutan kalium 3 ppm), tetapi tidak dapat mengadsorpsi ion Na^+ . Karbon aktif norit dapat mengadsorpsi ion Na^+ sebesar $0,703 \text{ ppm}$ (pada konsentrasi larutan natrium 3 ppm), tetapi tidak dapat mengadsorpsi ion Na^+ .

SUMMARY

Adsorption Of Na^+ and K^+ Ion On Merck And Norit Activated Carbon

The study of adsorption of Na^+ and K^+ ions on merck and norit activated carbon had been done. These adsorption were compared to adsorption of metilen blue. Besides of studying the adsorption of activated carbon, the surface area, the pore distribution and the chemical nature of the surface area of activated carbon had been determined.

The quantity of ions that had been adsorbed on activated carbon was determined by using Atomic Adsorption Spectrofotometri, whereas the number of metilen blue that adsorbed on activated carbon was determined by using Spectrofotometri UV-VIS.

Merck and norit activated carbon had surface area of 782,728602 m^2/g and 9,275572 m^2/g respectively. Metilen blue was well-adsorbed on Merck and norit activated carbon. The amount of metilen blue that had been adsorbed on merck and norit activated carbon was 4,700 ppm and 4,467 ppm (from 10 mL of 5 ppm metilen blue) respectively, per 100 mg activated carbon. Na^+ ion that had been adsorbed amounts to 0,703 ppm per 100 mg norit activated carbon (from 10 mL of 3 ppm Na^+), but it was not adsorbed on merck activated carbon. The number of K^+ ion that had been adsorbed was 1.106 ppm per 100 mg merck activated carbon (from 10 mL of 3 ppm K^+), but norit activated carbon did not adsorb K^+ ion.