The properties of activated carbon are determined by several factors during the preparation phase.Longer activation times increase the BET surface area but decrease the percentage yield of activated carbon due to the volatilization of organic matter during carbonization.The raw materials should have a high carbon content, low inorganic matter or ash content, high density, sufficient volatile content, stability, low degradation during storage, and economic feasibility.Surface area and pore size distribution: The temperature and activating agent used during the preparation process are crucial parameters that affect the physicochemical properties of activated carbon.Type of functional groups: Functionalities introduced by heteroatoms can enhance reactivity and conductivity in the carbon matrix.Higher activation temperatures lead to an improvement in the BET surface area by creating new pores and enlarging existing ones through the release of volatile substances.Raw materials: The choice of organic materials used as precursors for activated carbon greatly influences its properties.However, excessive graphitization can deplete the heteroatom content and reduce carrier concentration.Higher temperatures promote the decomposition of carbonaceous species and increase .crystallinity.2.3.4.5.6.7.8

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