

Activated charcoal is used in water filters, medicines that selectively remove toxins, and chemical purification processes. Activated charcoal is carbon that has been treated with oxygen. The treatment results in a highly porous charcoal. These tiny holes give the charcoal a surface area of 300-2,000 m²/g, allowing liquids or gases to pass through the charcoal and interact with the exposed carbon. The carbon adsorbs a wide range of impurities and contaminants, including chlorine, odors, and pigments. Other substances, like sodium, fluoride, and nitrates, are not as attracted to the carbon and are not filtered out. Because adsorption works by chemically binding the impurities to the carbon, the active sites in the charcoal eventually become filled. Activated charcoal filters become less effective with use and have to be recharged or replaced.

Several factors influence the effectiveness of activated charcoal. The pore size and distribution varies depending on the source of the carbon and the manufacturing process. Large organic molecules are absorbed better than smaller ones. Adsorption tends to increase as pH and temperature decrease. Contaminants are also removed more effectively if they are in contact with the activated charcoal for a longer time, so flow rate through the charcoal affects filtration.

Activated charcoal is a supplement that is sold over-the-counter to treat several conditions including excess gas, high cholesterol, and preventing hangovers. Medicinal activated charcoal is also used in emergency medicine to treat certain types of poisoning. Activated charcoal is designed for medicinal use, and is not the same as the charcoal that is used in products that remove pet odors and in fish tank filters. Activated charcoal works to treat poisoning because it binds with some poisonous agents and helps them pass through the body without being absorbed. When activated charcoal is prescribed by a physician in this way it may be taken in several doses. However, as a supplement, activated charcoal has not been shown to be effective in treating other conditions such as excess gas, cholesterol or hangovers. The side effects from **activated charcoal** include constipation and black stools. Activated charcoal may also prevent some drugs from being absorbed by the body, therefore it should not be taken at the same time as other medications.

1. Let the activated charcoal dry completely if damp from absorbing atmospheric moisture.
2. Heat the oven to 300 degrees F and scatter the charcoal in a single layer on the baking sheet.
3. Set the activated charcoal into the oven for one hour at 300 degrees F to bake out the odors and impurities.
4. Let the **activated charcoal** cool completely before placing in an open shallow dish in an area from which you want to remove odors.

Activated charcoal differs in its use from that used to cook food in a barbecue pit. The porous nature of activated charcoal enables it to absorb odors from the air. You can recycle your used activated charcoal, also called **activated carbon**, by baking out the odors and reactivating it. Reuse your charcoal just two or three times, as completely cleaning the pores of the activated carbon proves difficult with home appliances. Look for activated charcoal in the aquarium-supplies area of pet stores or in garden centers.