

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: An Interesting Material

1. [Activated charcoal](#) hunting gear may or may not work, but when used properly, activated carbon works well at eliminating odors. Activated carbon, also called activated charcoal or simply activated coal, is a type of carbon that is manufactured to be extremely porous. This material is so porous that it has a large surface area. In fact, just 1 g of activated carbon has the surface area of more than two tennis courts. At a microscopic level, the carbon forms layers that may only be a few nanometers apart. This makes activated carbon ideal for absorption of chemicals.

#### The Science of Smell Reduction

2. Organic pollutants, like those found in human body odors that scare away sensitive wildlife, get stuck in the many layers of the carbon when they meet them. This is one reason that activated carbon is used in water treatment plants worldwide. Typically, water is filtered through a bed of carbon, much like the carbon filter in your Brita pitcher, and the small remaining carbon particles are filtered out of the water, leaving the water free from contaminants. Activated carbon is also used in many other odor-reduction applications, including commercial applications. However, even though activated charcoal is an effective odor killer, your new activated coal hunting gear may not be worth the \$350 price tag.

#### Controversy

3. The verdict is not in on whether commercially available activated charcoal hunting suits are actually effective at eliminating human odors. In fact, a class-action lawsuit was brought against Scent Lok beginning in 2007 and continues into 2009. It appears that some commercial activated charcoal hunting suits are not equipped with a layer of charcoal, but instead have only a scattering of charcoal particles between layers of fabric. This is unlikely to be effective at odor reduction--unless the organic molecules actually meet the carbon-filtering layer, there will be little if any scent reduction.

There are still issues with the renewal of activated carbon in hunting equipment. Activated carbon, although highly porous, still will become satiated at some point, begging the question of how to remove odor from these custom suits without replacing the carbon (as is done in most industrial applications).

Some experiments indicate that these suits may not shield odors enough to be effective. Scientists believe that deer have a sense of smell that is in some way similar to a dog's sense of smell. In a study by John A. Shivik, dogs showed little trouble in locating suit wearers, only slightly slower than non-suit wearers (see link in References). For these reasons, it is still not certain if [activated charcoal](#) suits work at all.