

ARE YOU CONCERNED ABOUT ACTIVATED CARBON QUALITY?

In the environmental management field, using activated granular carbon to remove dissolved organic compounds and volatile organic emissions is a widely accepted procedure. *However*, there are significant differences in the abilities of various carbon products to remove these unwanted substances.

The ability of activated carbon to remove contaminants is determined not by its weight or volume, but its *Adsorption capacity*, i.e., the amount of impurity removed by a given amount of activated carbon. The higher this capacity, the more contaminants removed per, let's say, cubic foot, the less carbon needed to perform a particular job.

In the manufacture of activated carbons, a wide variety of raw materials and widely varying quality specifications are used. While the raw material itself determines many of a carbon's physical properties, its adsorption capacity is dependent on a precise and carefully controlled *steam activation process*.

Quality is also an issue with reactivated carbons. The ability to decontaminate and reactive spent carbon to near virgin capacity is dependent not only on proper operation of the reactivation furnace but its close and careful monitoring (e.g., thermal degradation and the build up of inorganic ash constituents are common problems with carbons that are repeatedly recycled).

The carbon manufacturing industry and ASTM have developed two critical tests that not only measure the quality of both virgin and reactivated carbon products but also predict its cost effectiveness:

The IODINE ADSORPTION TEST (ASTM D4607) for measuring the LIQUID PHASE of activated carbons produce **IODINE ADSORPTION NUMBERS** from 800 to 1250 mg/gr. (the higher the number the greater the capacity).

The CARBON TETRACHLORIDE ADSORPTION TEST (ASTM D3467) for the VAPOR PHASE of activated carbons produces **CARBON TETRACHLORIDE ADSORPTION NUMBERS** ranging from 45 to 70 percent by weight.

When buying either virgin or reactivated carbon products, make sure that these adsorption numbers are specified. Then compare these to **CARBTRON**'s to insure the best activated and reactivated carbon value for your money.

CARBTRON'S NUMBERS:

Liquid Phase Virgin Carbon - CSL - Iodine Number -

1100 mg/gr. (average) !

Vapor Phase Virgin Carbon - CSV - Carbon
Tetrachloride Number -

60-65% (average) !

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