

MWV NUCHAR® POWDERED ACTIVATED CARBON REMOVES ATRAZINE



WICKLIFFE, KENTUCKY CARBON MANUFACTURING PLANT

MWV Nuchar® powdered activated carbons have been used for many years in the U.S. drinking water industry to control unpleasant taste and odors, particularly MIB and Geosmin. Adsorption of atrazine and TOC are other performance advantages of Nuchar wood-based carbons.

Other benefits of Nuchar carbons include high surface area, high pore volume, increased suspendability, and low ash content. Pipe or process scaling does not occur in water treatment plants using MWV carbons.

WHAT IS ATRAZINE?

Atrazine is widely used in herbicides to control weeds in crops such as corn, soybeans, sugarcane, forestry, etc. As crop run-off occurs atrazine is released into the environment and ultimately, becomes part of source waters for drinking water treatment plants. Atrazine is not detectable by a drinking water consumer.

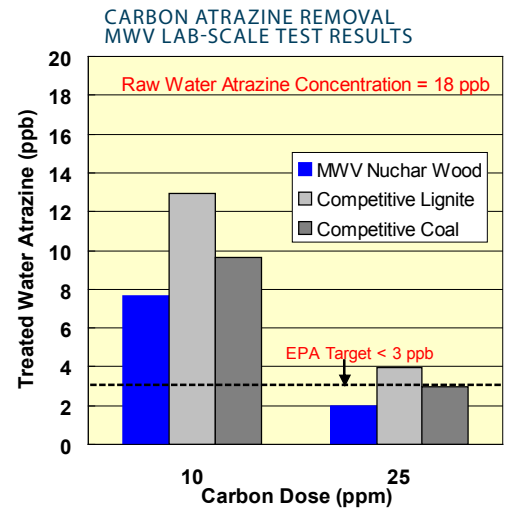
ROLE OF NUCHAR POWDERED CARBONS

Nuchar wood-based carbons have a large surface area and extensive pore structures. These properties enable the adsorption of a variety of dissolved organics, including atrazine.

Powdered carbon, like Nuchar, is typically added near the raw water intake to provide contact time for adsorption, prior to coagulation and disinfection. Powdered activated carbon is later removed from the process as part of sedimentation or filtration. In some circumstances, the use of powdered activated carbon offsets the need for intensive capital installation of deep granular carbon beds.

EPA ATRAZINE REMOVAL REQUIREMENTS

The U.S. Environmental Protection Agency (EPA) began regulating atrazine in 1992. According to EPA rules, a maximum atrazine level of 3 ppb must be met by drinking water treatment plants. Activated carbon is one of the best available technologies for atrazine removal from drinking water.



MWV Specialty Chemicals has over 90 years of activated carbon experience and technical expertise. MWV domestically manufactures wood-based activated carbon from renewable tree resources in Covington, VA, and Wickliffe, KY.

COMPARISON OF TYPICAL CARBON PROPERTIES

Carbon Type	Surface Area m ² /g	Pore Volume mL/g	Ash Content wt%	Iodine Number mg/g
Nuchar Wood-Based Carbon	1200 - 1800	1.2	4 - 6	900 - 1200
Coal-Based Carbon	800 - 1000	0.5	4 - 10	800 - 1100
Lignite-Based Carbon	400 - 600	0.5	30 - 35	400 - 600

Nuchar activated carbon has the largest pore volume and surface area which enables adsorption of organics. Nuchar has the lowest ash content, so pipe and process scaling will not occur.