



RXSOL

CHEMO PHARMA INTERNATIONAL

Technical Data Sheet (TDS)

RXSOL-26-3107-055
Activated Carbon Granular

ACTIVATED CARBON

DESCRIPTION

Activated Carbon is a very active product with a high proportion of medium and large pores. It is recommended for the adsorption of large quantities of high molecular weight substances. Granular Activated Carbon has a relatively larger particle size compared to powdered Activated Carbon and consequently, presents a smaller external surface. Diffusion of the adsorbate is thus an important factor. These carbons are therefore preferred for all absorption of gases and vapors as their rate of diffusion are faster. Granulated carbons are used for water treatment, deodorization and separation of components of flow system and is also used in rapid mix basins. GAC can be either in granular or extruded form.

PROPERTIES

Physical	Chemical
Appearance: Dark grey/black granules Specific Gravity: .22-.32 Pour Point: 2150°C Flash Point: Not flammable	Type: carbon Charcoal Solubility: Negligible (water, oil) pH: 4.0-6.0 Microtox: Not applicable

APPLICATION

The use of granular Activated Carbon in wastewater treatment systems is a proven process for removal of organic compounds. As a tertiary treatment method, carbon adsorption and regeneration have been used to process domestic wastewaters contaminated with industrial wastes of organic origin as well as biologically treated waste waters. Activated Carbon, when contacted with water containing organic material, will remove these compounds selectively by a combination of adsorption of the less polar molecules, filtration of the larger particles, and partial deposition of colloidal material on the exterior surface. The quantity of Activated Carbon required will depend upon the degree of contamination.

Activated carbon is useful in drinking water treatment because it acts as an adsorbent, and can effectively remove particles and organics from water. These organics are of great concern in water treatment because they react with many disinfectants, especially chlorine.

Activated Carbon is a very active product with a high proportion of medium and large pores high surface area 1050 meter square per gram. It is recommended for the adsorption of large quantities of high molecular weight substances.

An amorphous form of carbon characterized by high adsorptivity for many gases, vapors, and collodial solids.

Used for water and air purification, solvent recovery, waste treatment, removal of sulfur oxide from stack gases

and "clean" rooms as deodorant, and for air conditioning.

GRADE	RX AW-200	RX AW - 250	RX AW - 300	RX AW - 350	RX AW - 400	RX AW - 450
MB VALUE mg/gm	200 (±10)	250 (±10)	300 (± 10)	350 (± 10)	400 (± 10)	450 (± 10)
pH OF 1% WATER EXTRACT	6 to 7	6 to 7	6 to 7	6 to 7	6 to 7	6 to 7
ASH % MAX	4	4	4	4	4	4
SOLUBLE ASH % MAX	1	1	1	1	1	1
IRON ppm MAX	250	200	200	200	200	200
MOISTURE % MAX	5 to 10	5 to 10	5 to 10	5 to 10	5 to 10	5 to 10
ACID SOLUBLE % MAX	2	2	2	2	2	2
WATER SOLUBLE %	1	1	1	1	1	1
L.O.D % MAX	7 to 10	7 to 10	7 to 10	7 to 10	5 to 10	5 to 10
CHLORIDES ppm	USP	USP	USP	USP	USP	USP
% KMnO4 ADSORPTION	55	65	75	85	90	95
IODINE VALUE mg/gm	800 (± 50)	850 (± 50)	1000(± 50)	1100(±50)	1150	1200
METHANOL TEST	No Turbidity	No Turbidity	Passes	Passes	Passes	Passes
PARTICLE SIZE	85 % Passing through 250 mesh size	85 % Passing through 250 mesh size	85 % Passing through 250 mesh size	85 % Passing through 250 mesh size	85 % Passing through 250 mesh size	85 % Passing through 250 mesh size

MIXING AND HANDLING

Fluids may be filtered through Activated Carbon or the Activated Carbon may also be added directly to a contaminated fluid to remove impurities. It is advisable to use a dust mask and eye protection while mixing all powdered products.

WHMIS: Not controlled	TDG: Not regulated	PACKAGING: 25 Kgs, 50 Kgs.
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Used for water and air purification, solvent recovery, waste treatment, removal of sulfur oxide from stack gases and "clean" rooms as deodorant, and for air conditioning.

Activated Carbon is a porous material that removes organic compounds, pollutants, contaminants and other impurities from liquids, gases, chemicals, metals, etc. Our diversified Product Portfolio ranges from Acid Washed Grade Activated Carbon, Unwashed Grade Activated Carbon, Granular Activated Carbon upto Powdered Grades of Activated Carbon. In addition to our vivid range of products, we also provide a varied choice in the manufacturing base of Activated Carbon. viz. Coconut Shell Based, Wood Based and Coal Based Activated Carbons.

Activated Carbon is commonly used to adsorb natural organic compounds, taste and odour compounds, and synthetic organic chemicals in drinking water treatment. Adsorption is both physical as well as chemical process

of accumulating a substance at the interface between liquid and solids phases. Activated Carbon is an effective adsorbent owing to its high porosity and availability of a larger surface area for better and efficient contaminant adsorption. Activated Carbon is available as Powdered Activated Carbon (PAC) and Granular Activated Carbon (GAC).

How Carbon Filters Work ?

Carbon granules water filtering is a method to remove contaminants and impurities, removing chlorine, sediment, volatile organic compounds (VOCs), taste and odor from water.

How Carbon Filters Work -

Importance of CARBON increases due to its large surface area. Mathematical area calculation of one pound carbon can cover more than 120 acres of ground surface. And the simple concept is MORE surface area can absorb large quantities of impurities present in water and other liquid materials.

In water carbon filtration case impurities present in water which can cause diseases like cancer and other health problem. Carbon filters due to its large surface area absorb easily large amount of chemicals and substances that pose serious dangers to the normal domestic water supply. work so well because of their large surface area.

Activated carbon manufacturer, supplier and exporter. We are manufacturing Granular Activated Carbon with various Iodine Adsorption value (mg. /gm.): 450 IV - 1200 IV

We manufacture and export Activated Carbon to our clients that are formulated using premium quality chemicals and according to the international quality standards. These are used for the reduction of the impurities related to taste, odour and colour inorganic chemicals. Our ranges of products are fully tested by quality analysts to ensure that the defect free range is supplied to our customers. We offer these at cost effective prices.

An activated carbon product can be characterized by its activity and physical properties. Activity properties include pore size distribution that defines the available pore volume of a carbon over three pore size regions: the micropore, mesopore, and macropore regions:

Micropore region - less than 100 Angstroms

Mesopore region - between 100 and 1,000 Angstroms

Macropore region - greater than 1,000 Angstroms

Pore size distribution properties are key indicators of a carbon's potential performance for removing contaminants (adsorbates) from water. The molecules encountered in the gas phase are generally smaller than those in the liquid phase applications; therefore, a gas phase carbon has the majority of its pores concentrated in the micropore region.

A broad range of pore sizes must be available, both for ease of movement of adsorbates through the carbon pores and for the adsorption of particular molecular sizes. Liquid phase carbons often contain a broader pore size distribution to remove color bodies and larger organic materials, while maintaining some microporosity for the removal of taste and odor compounds.

Physical properties include surface area, product density, mesh size, abrasion resistance, and ash content.

Typical measured carbon properties include:

Iodine Number - standard testing done to estimate the surface area of the activated carbon by measuring iodine adsorption at a given set of standard testing conditions, reported in mg I₂ adsorbed per gram carbon

Surface Area - amount of surface available for adsorption for a given mass of carbon, measured using techniques such as BET nitrogen adsorption; reported in units of m²/g

Product Density - several properties available, including apparent density which is the density of the carbon at maximum packing efficiency, reported in g/cc or lbs/cf

Mesh Size - measure of particle range of the granular product, usually reported as a range of sieve openings, such as 12 x 40 for a carbon that passes a 12 mesh screen, but is retained on a 40 mesh screen with a specification on the amount that can be retained on the larger opening screen or passing the smaller opening screen; basis is US sieve sizes
Abrasion Number - measure of the ability of the carbon product to resist attrition; this important property permits one to understand how durable the activated carbon is in applications where backwashing is required, carbon will be transferred, or treatment velocities are above average

Ash Level - a measure of the non-carbon content of the activated carbon; all base materials have a certain ash constituency, with the content varying from base material to base material; for example, coconut shell carbon tends to have more alkali earth metals, while coal-based carbons have more heavy metals

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