

Activated Carbon
for Medicinal
and Pharmaceutical
Processes



Jacobi
THE CARBON COMPANY

PREVENTION AND CONTROL of disease and safeguarding health is a top priority in modern society. Increasingly, medical intervention utilises drug therapy rather than invasive measures such as surgery. As a result the growth of pharmaceutical preparations is today at an unprecedented level.

Jacobi has extensive knowledge of the challenges our customers face and deep insight into their complex markets. Regardless of the industry sector – medicinal or pharmaceutical, – we have the right activated carbon to meet the challenge. Of course, only the highest quality activated carbon products are considered fit for these critical demands. We also have the capability of providing strict control on parameters such as microbial content and undertake ionisation processes as required.

Attention to our client's needs is unparalleled in the activated carbon market, and our customised manufacturing capability ensures that each delivery fulfils the defined specifications. This provides our customers with the reassurance they need that products are produced, handled, packaged and quality controlled to the highest standards. The pharmaceutical manufacturing process continues without interruption. As a manufacturer ourselves, we understand the importance of reliable high quality supplies and in turn guarantee to provide the same to our customers.

Jacobi's quality control has been recognised as good manufacturing practice (GMP) in the EU, and our facilities have been accredited by external agencies such as ANSM.



The Carbon Company



Refining of high grade pharmaceutical preparations (including API) often requires the removal of colour taints. Jacobi ColorSorb™ products play a vital role in achieving this goal.

Activated carbon is a highly versatile material. Normally associated with adsorption of organic contaminants, the range of applications possible is remarkable. From purifying the air and water around us to important applications in the field of healthcare, activated carbon performs an intrinsic role in our everyday lives.



The pharmaceutical industry demands an exceptional level of purity in all processing aids. As a manufacturer of activated carbons, Jacobi fulfills these exacting standards, providing the reassurance our clients require.



Addition to breads, biscuits, drinks and candy are all known and commercialised uses for activated carbon.



In operating theatres, the escape of ever-present anaesthetics must be controlled so that surgical teams are not affected by inhalation of these gases.

The Purity Company



The unique adsorptive properties and natural raw material origin means that activated carbon is a widely used antitoxin. Able to rapidly alleviate the effects of poisons or over-consumption of stimulants, through to assistance with digestion and sensitive alimentary conditions.

In ostomy care products, activated carbons work as a deodourising agent to remove malodours. This greatly improves the quality of life experienced by those who have undergone abdominal or alimentary tract surgery.



DIRECTLY OR INDIRECTLY, activated carbon has many different uses in the medical field. The adsorptive characteristics, coupled with the ability to develop exceptional purity in a naturally occurring product have led to its incorporation into the drugs themselves.

Activated carbon is used in the treatment of cholestasis during pregnancy and to lower cholesterol levels. Prior to abdominal radiography procedures activated carbons play the important role of an anti-flatulent. Even after the radiography itself, it has a role to play in the removal of the radio-opaque dyestuffs discharged to the sewerage system; many of which may find their way back into the drinking water system.

For blood dialysis in the treatment of kidney disorders, the activated carbon is used as a filtering medium, adsorbing toxins and preventing potentially life-threatening contamination. Here an ultra-pure activated carbon is used to prevent secondary contamination. It is our expertise in the preparation of our AquaSorb™ products by various washing and rinsing processes, that generates confidence in our products for this application.


Other uses in the medical field include over the counter stomach remedies that incorporate activated carbon as an active ingredient. Here the ingestion of the active ingredient assists in purification of digestive tract liquids, assists in the control of flatulence, diarrhoea and is claimed to generally lower toxin levels throughout the body. And for wound care, activated carbon is incorporated into dressings to control odour, and in some cases to prevent sepsis.

JACOBI CARBONS PRODUCTS FOR MEDICINAL AND PHARMACEUTICAL USE

TYPICAL PROPERTIES

GRADE	Base material	Activation Method	Form	Phenazone Index (%)	Molasses No. (EU)	Methylene Blue (ml/g)	Iodine No. (mg/g)	EP compliance	USP compliance	E153 compliance	Comment
ColorSort TM HP-Pharma	Wood	Chemical	Powdered	-	90 max.	-	-	-	Yes	-	High purity, strong decolourising
ColorSort TM B7 Pharma	Wood	Steam	Powdered	-	300 max.	-	-	-	Yes	-	High purity, purification
ColorSort TM TSA	Wood	Steam	Powdered	-	300 max.	150 min.	-	-	Yes	-	Ultra high purity
ColorSort TM TSA-Plus	Wood	Steam	Powdered	-	250 max.	190 min.	-	-	Yes	-	Ultra high activity and purity
ColorSort TM SP-Pharma	Coconut	Steam	Powdered	40 min.	-	-	-	-	-	-	Microporous, high purity
ColorSort TM S-Pharma	Coconut	Steam	Granular	29 min.	-	-	-	-	-	-	Microporous, high purity, granular
ColorSort TM SP-Plus	Coconut	Steam	Powdered	-	-	140 min.	1100 min.	-	-	-	General purpose, microporous
ColorSort TM S-Plus	Coconut	Steam	Powdered	-	-	140 min.	1100 min.	-	-	-	General purpose, microporous, granular
Precifit TM Medicinal EP40	Coconut	Steam	Powdered	40 min.	-	-	-	Yes	Yes	-	Ingestible product, EP compliant
ColorSort TM BP2WL	Coal	Steam	Powdered	-	-	180 min.	900 min.	-	-	-	Veterinary grade, moisturised
ColorSort TM HPG	Coconut	Steam	Powdered	-	180 max.	110 min.	-	-	-	-	Micro/macroporous grade
ColorSort TM G9	Wood	Steam	Powdered	-	325 max.	160 min.	1000 min.	-	-	-	Meso porous grade
ColorSort TM L	Wood	Chemical	Granular	-	190 max.	160 min.	-	-	-	-	Granular decolourising
ColorSort TM HP120-LM	Wood	Chemical	Powdered	-	120 max.	-	-	-	Yes	-	High purity, decolourising, acid pH
ColorSort TM HP120N-LM	Wood	Chemical	Powdered	-	120 max.	-	-	-	Yes	-	High purity, decolourising, semi-acid pH
ColorSort TM HP120A-LM	Wood	Chemical	Powdered	-	120 max.	-	-	-	Yes	-	High purity, decolourising, neutral pH
ColorSort TM E153-Pharma	Wood	Steam	Powdered	-	-	150 min.	-	-	-	Yes	High colour intensity pigment (E153)
ColorSort TM SP-E153	Coconut	Steam	Powdered	-	-	-	-	-	-	Yes	Colour pigment (E153)

The Versatile Company



The development of novel ways to use activated carbons in the pharmaceutical sciences is a feature of the investment and focus Jacobi Carbons places on research in adsorption technology. Safeguarding all our futures.



The options of supply form of activated carbon products are tailor-made to the pharmaceutical industry to reflect and complement the various drug delivery systems required.

BY FAR THE LARGEST use of activated carbon is in the treatment of pharmaceutical intermediates to remove unwanted by-products without modifying any chemicals. Acting on the raw liquors, different grades of activated carbon perform different functions. From bulk colour removal of feeds to the separation of pre-cursors of degradation products, Jacobi's solutions are equipped to meet the high purity, low soluble matter requirements of the pharmaceutical industry. Often we adopt client test methods in the formulation of our products and are able to adjust and adapt our manufacturing processes to meet these demands.

Activated carbon has also proven itself as a superior adsorbent in pharmaceutical processing applications where highly effective filtration systems are required. The key factor for carbons used for these purposes is purity and performance. This ensures soluble minerals with low acid content, which reduces contamination of the final product with no influence on solution pH.

The benefits of ingesting activated carbon have been recognised for many thousands of years. Today this proven restorative function has gained increasing focus as health consciousness is on the increase. Vitamins and alternative medicine with activated carbon are used in many countries as over-the-counter remedies to treat diarrhoea, indigestion and flatulence.



In the area of veterinary medicine activated carbon is widely used as a feed additive. It functions as a curative agent the same way as in human medicine by adsorbing undesirable or potentially harmful substances from the animal's gastrointestinal tract, making it an effective treatment for poisoning and diarrhoea.



Jacobi Carbons supplies products in a variety of forms, from pellets and granules, to finely divided powders with carefully controlled particle size distributions.

The Quality Company

Coconut shells are harder, more microporous and higher in density than coal-based raw material. Benefits include lower attrition, less dust and a more efficient activated carbon end product. The higher mesoporosity and macroporosity of activated carbons produced from wood makes them more versatile when it comes to adsorption.





Our team of application experts provides assistance on all aspects of applicable procedures in the medicinal and pharmaceutical industries.

ONE OF THE KEY FACTORS in choosing the right activated carbon is the degree of purity it can provide. Contamination of intermediates by soluble substances in the activated carbon is not an option. Jacobi has mastered the complex process of manufacturing specialized activated carbons of superior quality derived from coconut shells and different types of wood. These can be further refined by washing processes to minimise the effect on the treated liquor on contact with activated carbon.

Coconut shell is plentiful and sustainable, and yields a highly pure activated carbon. Purity is important in the treatment of highly sensitive liquors, and in the removal of micropollutants. The predominance of microporosity is both an advantage and a limiting factor in the use of coconut shell carbons, especially in the removal of colour bodies and higher molecular weight contaminants.

Wood based activated carbons have a more highly developed mesoporosity (steam activation) and macroporosity (chemical activation). These materials are more versatile where coconut shell grades are limited in adsorption efficiency and capacity.

Our expertise in the development of speciality products, blends and ultra-pure materials allows precise targeting of compound removal. Jacobi also features the broadest range of activated carbons on the market.

No matter where in the world our customers develop or produce, Jacobi has distribution centres to support quick and flawless supply, which reduces lead times and inventory.



The Global Company

JACOBI CONTINUES TO FIND more opportunities for the medicinal and pharmaceutical industries. Our R&D department has extensive knowledge of all applicable procedures and conforms to internationally recognised standards, such as ISO, ANSM, FCC, EuPharm and US Pharm. This provides our clients with the best possible quality product for the ultra-demanding standards required.

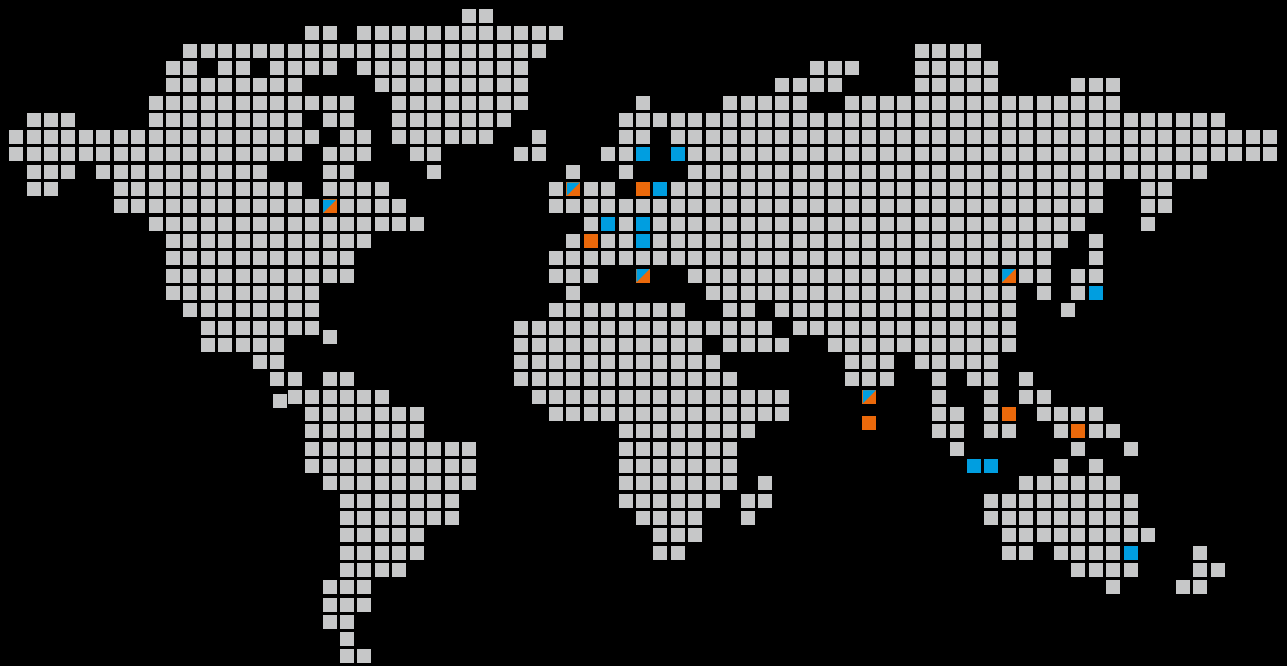
All laboratories and production processes are harmonised to a standard system of operating procedures that utilise a centrally managed IT platform. We have manufacturing plants in 10 locations worldwide. Products are stocked at our own warehouses or with our distribution partners, which ensures a first rate chain of supply worldwide.

It is important for us to be more than a supplier of high quality products; we also strive to be the best support partner for our customers. Custom solutions are the norm for Jacobi and we welcome any challenge.

Five modern, wholly owned primary manufacturing facilities guarantee secure delivery of high quality activated carbon products on a global scale.



Jacobi Carbons has developed the most diverse production base in the industry with manufacturing plants, reactivation plants and sales offices located in 19 countries around the world.



■ SALES OFFICES

Australia	Poland
China	Singapore
Finland	Spain
France	Sweden
Germany	Switzerland
Italy	United Kingdom
Japan	United States
Malaysia	

■ MANUFACTURING PLANTS

China	United Kingdom
France	United States
Germany	Vietnam
India	
Italy	
Sri Lanka	
The Philippines	

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