

**RESOLUTION 21-121**

**A RESOLUTION TO AWARD THE CONTRACT TO CITCO WATER FOR THE PURCHASE OF ACTIVATED CARBON**

**WHEREAS**, the City of Spring Hill's Water Treatment Plant utilizes activated carbon for the pretreatment of water for human consumption; and

**WHEREAS**, currently the Water Plant is utilizing Jacobi Aquasorb CB-1 Carbon for the removal of a variety of aqueous pollutants including organic matter and taste and odor compounds; and

**WHEREAS**, an invitation to bid was advertised with two responses received from CITCO Water and UnivarSolutions; and

**WHEREAS**, the chemicals will be funded from the Water and Sewer fund and are budgeted in the FY 2021-2022 budget; and

**WHEREAS**, City staff recommends awarding the contract to CITCO Water for the purchase of activated carbon for the Water Treatment Plant in the amount of \$68,969.21.

**NOW, THEREFORE BE IT RESOLVED**, the City of Spring Hill Board of Mayor and Aldermen:

1. Award the contract for the purchase of activated carbon for the Water Treatment Plant to CITCO Water at a total yearly bid cost of \$68,969.21.
2. Authorize the Mayor to sign the contract, attached herein.

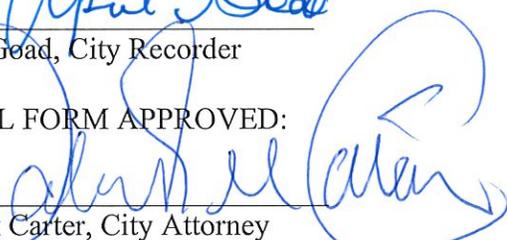
**Passed and Adopted by the Board of Mayor and Aldermen of the City of Spring Hill, Tennessee on the 16<sup>th</sup> day of August, 2021.**

  
Jim Hagaman, Mayor

ATTEST:

  
April Goad, City Recorder

LEGAL FORM APPROVED:

  
Patrick Carter, City Attorney



**REQUEST:**            *Approval of Resolution 21-121*

**SUBMITTED BY:**    Jeremy Vanderford, Water Treatment Plant Superintendent

**DATE:**                August 16, 2021

**RE:**                    To award the contract to CITCO Water for the purchase of  
Activated Carbon and to authorize the Mayor to execute the  
contract

**ATTACHMENTS:**    Contract

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**PURPOSE:**

The purpose of this resolution is to award the contract to CITCO Water for the purchase of Activated Carbon Jacobi Aquasorb CB-1 MW Carbon and to authorize the Mayor to execute the contract.

**BACKGROUND:**

The City of Spring Hill Water Treatment Plant utilizes activated carbon for the treatment of water for human consumption. This grade of activated carbon provides a high removal efficiency against a variety of aqueous pollutants, especially organic matter and taste and odor compounds. The material is NSF approved and compliant with international standards for activated carbon products.

An invitation to bid was advertised. Two bids were received. One from CITCO and one from UnivarSolutions. UnivarSolutions bid was deemed rejected due to the specifications and requirements set forth through the bid were not met. The bid received from CITCO water did meet the specifications and requirements set for through the bid process.

**FINANCIAL IMPACT:**

The proposed purchase price for activated carbon was budgeted in line 410-52110-320, funded through the Water and Sewer Fund with a total estimated yearly cost of \$68969.21 (estimated usage of 51,088 lbs \* \$1.35/lb)

**STAFF RECOMMENDATION:**

Staff recommends approval of Resolution 21-121 to award the contract to CITCO Water and to authorize the Mayor to sign the contract for the purchase of Activated Carbon at a total cost of \$1.35 per pound.

**CITY OF SPRING HILL, TENNESSEE**  
**WATER DEPARTMENT**  
**INVITATION TO BID**  
**SPECIFICATIONS AND CONTRACT DOCUMENTS**  
**FOR PURCHASE OF ACTIVATED CARBON**  
**2021-52110-03**



Bid packets are available at: [www.springhilltn.org](http://www.springhilltn.org). The City of Spring Hill will advertise this bid until 2:00 P.M. on Thursday, August 5, 2021. Completed, sealed bid packets may be dropped off at Spring Hill City Hall, 199 Town Center Parkway, Spring Hill, TN or mailed to the City of Spring Hill, PO Box 789, Spring Hill, Tennessee, 37174. Attention: April Goad, City Recorder and marked "Bid for WATER PLANT ACTIVATED CARBON"

**The City reserves the right to reject any or all Proposals regarding the services, to waive irregularities and/or informalities in any Proposal, and to make an award in any manner, consistent with law, deemed in the best interest of the City.**

## INVITATION TO BID – ACTIVATED CARBON

The City of Spring Hill Water Treatment Plant will be accepting sealed bids for activated carbon. Bidders shall submit sealed quotations no later than 2:00 p.m. (CST), Thursday, August 5, 2021, at which time bids will be opened and read aloud. Bidding documents may be obtained at Spring Hill City Hall during regular business hours or [www.springhilltn.org](http://www.springhilltn.org).

Bids should be mailed, or hand delivered to:

April Goad, City Recorder  
City of Spring Hill  
Label Envelope/Package: Invitation to Bid  
WATER PLANT ACTIVATED CARBON  
199 Town Center Parkway (for hand-delivery or courier services)  
P.O. Box 789 (for regular mailing services)  
Spring Hill, TN 37174

### PROJECTED TIMELINE:

Invitation To Bid Release	July 22, 2021
Addendum release date (if applicable)	July 30, 2021
Bids Due	August 5, 2021 at 2:00 p.m. CST
Selection of Recommended Vendor	August 5, 2021
BOMA Meeting	August 16, 2021

### SCOPE:

The Water Department of the City of Spring Hill is seeking sealed bids to establish a contract for the purchase of activated carbon. This product will be used in the disinfection process of drinking water and must be certified to meet the NSF/ANSI 60 Standards and any other required drinking water standard at the time of bid. Annual usage is estimated to be 56,800 pounds, though the City does not guarantee the annual quantity to be purchased.

### GENERAL CONDITIONS:

- 1) **Acceptance of Bids:** The City of Spring Hill reserves the right to reject any and all bids, to waive any informal technicalities or defects, the scope and nature of which it shall be sole judge, in any bid, insofar as such technicality or defects do not legally, materially or substantially change such bid.

The City shall have ninety (90) days from bid opening date in which to accept bid.

- 2) **Error in Bid:** In case of an error in the extension prices in the bid, the unit price governs. No bid shall be altered, amended or withdrawn, unless the acceptance date has expired, after the opening date of bids. Negligence on the part of the bidder in preparing the bid confers no right for withdrawal of the bid after it has been opened.

- 3) **Discount Period:** Time in connection with any discount offered will be computed from the date of delivery, or the date correct invoices are received, whichever is later. Discounts other than "Time Discounts" shall be shown on the face of the proposal sheet under "Terms".
- 4) **Sample of Materials:** Samples of items, when requested, must be furnished free of expense to the City, at the time bids are opened or later, if such are called for after the bids are opened. If such samples are not destroyed in the process of sampling, they will be returned at the bidder's expense.
- 5) **Signatures on Bids:** Each bid must contain the full name and business address of the bidder. Any person signing a proposal sheet for himself or as agent, employee or officer of another must show his title and, if requested by the City, shall furnish proof of his authority to make such proposal.
- 6) **Alternate Bids:** Alternate bids will be considered providing such items that appear on such bids meet specifications. Where equivalent items are bid upon, said City reserves the sole right in determining whether they meet specifications.
- 7) **Bid Sheets:** Bidders shall use the bid sheets furnished by the City. Failure to submit this sheet as required shall render the proposal invalid. Bid sheets must contain prices on per unit and aggregate basis and the total amount of the bid must be stated on the bid sheet.
- 8) **Federal or State Sales, Excise or Use Tax:** Every bid shall separately state and set forth, therein the amount of any and all Federal and State sales, excise or use taxes included in the bid prices. If any such taxes are included in the prices bid, the City reserves the right in making the award to deduct any amount of such taxes thereof.
- 9) **Delivery:** The number of calendar days in which delivery will be made after contract is executed and purchase order placed shall be stated in the bid. When the bidder states no time delivery, it is understood and agreed that delivery is to be made within fifteen (15) days after receipt of order, unless otherwise stated in the specifications.
- 10) **Compliance:** Contractor shall abide by all federal, state and local laws and statutes and obtain all permits required in number fifteen (15) of these conditions.
- 11) **Specifications:** It is understood that reference to attached specifications shall be sufficient to make the terms of such specifications binding on the contractor. In some instances, the name of the manufacturer, a special brand, or make of an item is used in describing the item or items desired; but this does not restrict the bidder to that manufacturer or specific article, this means being used simply to indicate the character or quality of the article or service desired; but the articles on which the proposal is submitted must be equal to that specified, and a statement to that effect shall be made a part of the proposal. Where conflict occurs between the requirement or the General Conditions and the specifications, the requirements of the specifications will govern.
- 12) **Inspection:** Final inspection and acceptance or rejection will be made at the time of delivery, but all products and workmanship shall be subject to inspection and test at all times and places. The right is reserved to reject articles that contain defective material and workmanship. Rejected materials shall be removed by and at the expense of the

contractor promptly after notification of rejection. The City shall not be obligated to pay the full price for any items that do not meet specifications; however, payment may be made at a proper reduction in price.

- 13) **Bid Opening:** Bids may be mailed or delivered to April Goad, City Recorder of the City of Spring Hill, Tennessee. All bids will be opened and publicly read at a time specified on the Bid Sheet. Bids received after the specified time for opening, as shown on the invitation to bid, will not be accepted.
- 14) **Cancellation:** The City reserves the right to cancel an accepted bid or contract in whole or in part due to nonperformance or defective products.
- 15) **Permit Requirements:** Successful bidder will be responsible for securing any necessary permits for complying with all required inspections whether local state or federal.
- 16) **Multi-Year Contracts:** The City reserves the right to enter into a multi-year contract with the awarded vendor not to exceed an aggregate period of three years. The City further has the right to terminate any multi-year contract due to non-appropriation of funds.
- 17) **Financial Statements:** Financial statements will be submitted upon request.
- 18) **Term of Payment:** Payment will be made in full after the satisfactory receipt of goods, materials, supplies, and equipment. Executed contracts must specifically state if there is any partial payment or other deviation from this method of payment.
- 19) **Title VI Policy-** The City of Spring Hill will not discriminate in the purchase of all goods and services on the basis of race, color, religion, sex, national origin, age, disability or any other lawfully protected classification. Verbal quotations or quotations received after the closing date will not be accepted. The City of Spring Hill reserves the right to reject any and all bids, to waive technicalities or informalities and to accept any bid deemed in the best interest of the City of Spring Hill

## 20) **Complaints – Vendors**

Vendors shall have the right to present a complaint, dispute or grievance concerning unfair treatment, contracts, deliveries, payments, restrictions, and other incidents. The following steps are intended to provide uniform procedures for a vendor to express a problem and obtain remedy.

Step One - Vendor must file a grievance with the City Recorder of the City of Spring Hill no later than seven (7) calendar days after the occurrence of the dispute or incident. The complaint must be in writing and include all supporting data and desired solution or remedy. The Finance Director will review the complaint with the user department and provide a written reply within forty-five (45) days to the vendor.

Step Two - If the vendor is not satisfied with the Finance Director's response, the vendor may appeal in writing to the City Administrator, who shall with the advice of the Finance Director and/or City Attorney, make a written determination to all parties involved. The City Administrator's decision shall be final.

### SPECIAL CONDITIONS

- 1) Material Data Safety Sheets must be supplied with the initial shipment.
- 2) For product substitutions, the vendor must agree to furnish representative samples for testing. If full scale testing of any product appears desirable, the vendor and the City may negotiate a contract for a 30-day trial.
- 3) Consideration of alternative products will be optional on the part of the City and in no way obligates the City to consider, test, or accept any product.
- 4) Vendor shall provide reasonable technical assistance in the event of a product problem.
- 5) Bid prices shall be FOB Spring Hill Water Treatment Facility and shall be quoted on a per pound basis.

### INSURANCE

The awarded vendor, if requested by the City, shall purchase and maintain in force, at his own expense, such insurance as will protect him and the City from claims which may arise out of or result from the vendor's execution of the work, whether such execution be by himself, his employees, agents, subcontractors, or by anyone for whose acts any of them may be liable. The insurance coverage shall be such as to fully protect the Owner, the City and the general public from any and all claims for injury and damage resulting by any actions on the part of the contractor or his forces as enumerated above. The awarded vendor, if requested by the City, shall furnish a copy of an original Certificate of Insurance,  naming City of Spring Hill, TN as an additional insured . Should any of the policies be cancelled before the expiration date, the issuing company will mail 30 days written notice to the certificate holder. The vendor shall furnish insurance in satisfactory limits, and on forms and of companies that are acceptable to the City of Spring Hill, TN and shall require and show evidence of insurance coverage on behalf of any subcontractors (if applicable), before entering into any agreement to sublet any part of the work to be done under any bid award.

The following insurance requirements are the minimum that will be acceptable:

1. Workmen's Compensation Insurance – State statutory limits
2. Commercial General Liability - Including products and completed operations coverage and contractual liability on the amount of \$1,000,000 CSL (combined single limit).
3. Commercial Automobile Liability including owned, non-owned and hired car in the amount of \$500,000 CSL.

**SPECIFICATIONS AND REQUIREMENTS**

Acceptable products which have performed successfully in the past:  
 Activated Carbon – Jacobi AquaSorb CB1-MW

Products or brands will be considered and will require product testing by the Water Treatment Facility in order to determine if the product can deliver equivalent performance with the same quantity used. Failure to meet the performance testing will disqualify the product from consideration.

Purity shall meet or exceed these specifications listed.

<b>Chemical &amp; Physical Requirements</b>	
Product	Jacobi AquaSorb CB1-MW Carbon
Type	ANSI/ NSF61 approved
Iodine Adsorption	Min. 950 mg/g
Total Ash content	Max 15%
Moisture Content	Max 5%
Surface Area	1000m2/g
<b>LABELING</b>	
Each Container shall be clearly labeled in accordance with EPA, OSHA, and DOT Regulations	
<b>PACKAGING</b>	
Container Size	Supersacks
Supersack Dimensions	Outlet must have a minimum length of 25inches with the tie 12 inches from base of bag and 19 inch outlet diameter
Container Deposit	City will not be responsible for container Deposits
<b>DELIVERY</b>	
Deliveries shall be made in a safe and reasonable manner such that DOT, OSHA and other regulatory codes are not violated. Delivery will be made to the Raw Water Intake at 2061 Carpenter Bridge Road, Columbia TN 38401. No Semi Trucks allowed. All deliveries will be in compliance with the City of Spring Hill Policy.	
<b>PRODUCT FAILURE</b>	
In the event that any product fails to meet specifications, the vendor shall, at no expense to the City, remove the unused portion of the product and refund the purchase price of such unused portion to the City	
Containers dropped during delivery, and/or leaking, corroded, damaged, or suspect containers shall be deemed unacceptable and considered as product failure.	
<b>PRICING</b>	
Bids shall be quoted as price per pound delivered to the City of Spring Hill Water Treatment Plant Raw Water Intake.	
Bids shall be fixed for a period of 12 months from the date of the bid opening. Price adjustments will be considered thereafter.	

**INVOICING**

The vendor shall invoice the City of Spring Hill, TN Water Treatment Plant. All invoices shall identify date of delivery, product delivered, unit quantity delivered, price per unit, and total per product delivered and finally total invoice price. Materials

shall be delivered prepaid and invoices shall include all freight charges.

#### PAYMENT

Payment will be made by the Finance Department upon the following conditions:

1. Delivery and acceptance of products ordered.
2. Receipt of properly completed invoice by the Water Superintendent.
3. Acceptance of the product and terms and conditions of the invoice as evidenced by the signature of the Water Superintendent on the invoice
4. Within 30 days provided all other conditions of payment have been satisfied.

#### AWARD

While pricing will be one of the determining factors in the award, it is equally important that:

1. The product offered complies with specifications
2. The product performs the intended function without any damage to or degrading of the plant operations.
3. The amount of product required to achieve the desired results will also factor into the final award decision.
4. Any bid award shall be for a period of one year with the City retaining the option to renew for two additional one-year periods.
5. Bids shall be fixed for the initial award period.
6. Price adjustments for any subsequent renewal period will be considered provided the adjustment is based upon a price increase from the manufacturer and not an increase in profit margins.
7. The vendor shall notify the Water Superintendent and Finance Director for the City of Spring Hill 90 days in advance of any intended price increase.

The awarded vendor will be required to execute a requirements agreement which shall incorporate the terms and conditions of this Invitation to Bid and the vendor's response.

**RESPONSE TO INVITATION TO BID  
CITY OF SPRING HILL- ACTIVATED  
CARBON**

**Manufacturer of ACTIVATED CARBON:**

Jacobi Carbon

**Brand:**

Jacobi CB-1

**Fixed price per pound for 12-month period from date of award \$** 1.35/lb.

**Are you willing to consider an extension of the award beyond an initial 12-month period?**  Yes  No

**Are the terms and conditions for extending an award attached?** NO

**Have you attached the product specifications?** Yes

In compliance with this Invitation for Bid for activated carbon and subject to all conditions thereof, the undersigned offers and agrees to furnish any or all items and/or services upon which prices are quoted, at the price quoted as specified above. My signature certifies that the accompanying bid is not the result of or affected by, any act of collusion with another person or company engaged in the same line of business or commerce, or any act of fraud punishable under the Laws of the State of Tennessee or the United States. Furthermore, I understand that fraudulent and collusive bidding is a crime and can result in fines, prison sentences, and civil damage awards. I hereby certify that I am authorized to sign this bid for the bidder.

**Company Name:** Citico Water

**Signature of Vendor:** 

**Name (type/print):** Alan Dennis

**Title:** Territory Manager

**Date:** 7/27/01

## IRAN DIVESTMENT ACT

A person engages in investment activities in Iran if:

(1) The person provides goods or services of twenty million dollars (\$20,000,000) or more in the energy sector of Iran, including a person that provides oil or liquefied natural gas tankers, or products used to construct or maintain pipelines used to transport oil or liquefied natural gas, for the energy sector of Iran; or

(2) The person is a financial institution that extends twenty million dollars (\$20,000,000) or more in credit to another person, for forty-five (45) days or more, if that person will use the credit to provide goods or services in the energy sector in Iran and is identified on a list created pursuant to § 12-12-106, as a person engaging in investment activities in Iran as described in this section.

By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization under penalty of perjury, that to the best of its knowledge and belief that each bidder is not on the list created pursuant to Tennessee Code Annotated § 12-12-106."

Vendor Name: Citico Water

Vendor Signature:  Date: 7/27/21

**AGREEMENT TO SUPPLY  
ACTIVATED CARBON  
CONTRACT #**

**THIS AGREEMENT** is dated as of the 27 day of July, 2021, by and between the City of Spring Hill, Tennessee (hereinafter called City) and City Water (hereinafter called Vendor).

City and Vendor, in consideration of the mutual covenants hereinafter set forth agree as follows:

**Article 1. PRODUCT**

Vendor agrees to furnish activated carbon as described below inclusive of delivery costs to the City of Spring Hill Water Treatment Plant Department at 2061 Carpenter Bridge Road, Spring Hill, TN, 37174. Product packaging and delivery shall be consistent with the terms and conditions as further stated in the contract documents

**Article 2. PRODUCT SUBSTITUTION AND TESTING**

In the event that the product bid is no longer available or the formulation of the product changes in anyway, the vendor must notify the City of the change and furnish samples for testing by the City prior to shipment of the substituted product. The City shall not be required to accept any substituted or reformulated product.

Notice of product change or substitution shall be made to the City as soon as reasonably possible by the vendor.

**Article 3. CITY.**

All purchases are being made on behalf of the City of Spring Hill Water Department. The Department Superintendent shall act as City's representative, assume all duties and responsibilities and have the rights and authority assigned to City in the Contract Documents in connection with completion of the Work in accordance with the Contract Documents.

**Article 4. CONTRACT TERMS.**

- 4.1 The agreement shall become effective upon execution by both parties and shall be found herein.
- 4.2 Prices shall be fixed for a period of one-year starting with the effective date of agreement.

## **Article 5. CONTRACT RENEWAL**

- 5.1 The contract shall automatically renew on the anniversary of the effective date of agreement for a period of one year unless terminated by a 90-day written notice from the City to Vendor.
- 5.2 Vendor shall notify the City at least 90 days in advance of any intended price increase.
- 5.3 Any price increase shall be based upon an increase in cost by the manufacturer and not based upon increased profit margin.
- 5.4 Automatic renewals of this agreement shall not extend beyond June 30, 2024.

## **Article 6. PAYMENT PROCEDURES.**

The Spring Hill Water Department shall be invoiced for chemicals properly ordered, shipped and received. All invoice shall be addressed to Spring Hill Water Department, Attn: Accounts Payable, P.O. Box 789 Spring Hill, TN 37174.

Payment will be made by City of Spring Hill check to be issued within 30 days for proper invoicing.

## **Article 7. CONTRACT DOCUMENTS.**

The Contract Documents which comprise the entire agreement between City and Vendor concerning the Work consist of the following:

- 7.1 This Agreement
- 7.2 Invitation to Bid - Solicitation #2021-52110-03
- 7.3 Vendor's Bid Response

## **Article 8. MISCELLANEOUS.**

- 8.1 City and Vendor each binds itself, its partners, successors, assigns and legal representatives in respect to all covenants, agreements and obligations contained in the Contract Documents.
- 8.2 Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon City and Vendor who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.
- 8.3 This Agreement shall be governed and construed in accordance with the laws of the State of Tennessee. In the event of any legal action to enforce or interpret this Agreement, the sole and exclusive venue shall be a court of competent jurisdiction

located in Maury County, Tennessee.

8.4 No amendment or modification of this Agreement shall be effective unless or until executed in writing by the parties hereto.

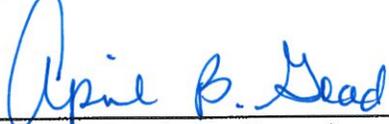
8.5 This Agreement and the attachment to this Agreement or references thereto shall together constitute the entire agreement and understanding by and between the City and the Vendor with respect to the services herein referred to, and no representations, promises, agreements or understandings, written or oral, not herein contained shall be of any force and effect.

**IN WITNESS WHEREOF**, City and Vendor have signed this Agreement in duplicate. One counterpart each has been delivered to City and Vendor. All portions of the Contract Documents have been signed, initialed or identified by City and Vendor on their behalf.

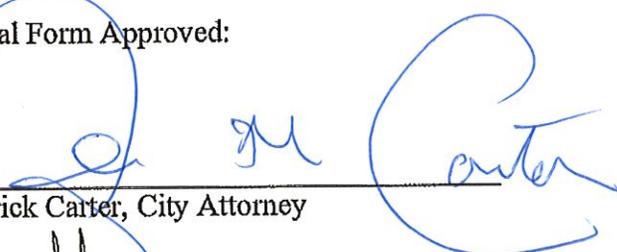
CITY OF SPRING HILL, a Tennessee municipality

By:  Date of Execution: 8-16-2021  
Jim Hagaman, Mayor

Attest:

  
April B. Goad, City Recorder

Legal Form Approved:

  
Patrick Carter, City Attorney

By:   
Vendor Representative

Alan Dennis  
(Print Name)

CFco water

3333 Hydes Ferry Rd Nashville, TN 37218  
(Business Name & Address)

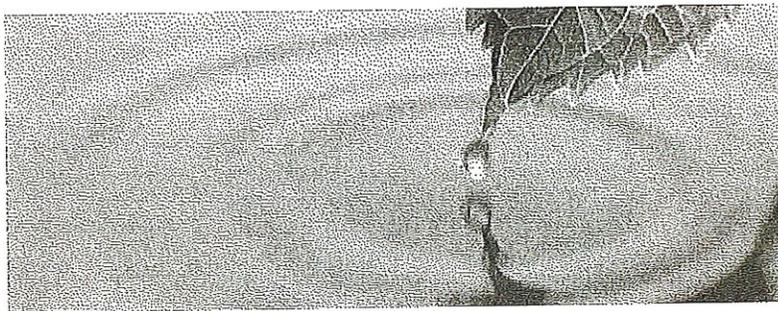


# TECHNICAL DATASHEET

## AquaSorb® CB1-MW

### Activated carbon for potable and industrial water treatment

AquaSorb® CB1-MW is a very high activity powdered activated carbon, specifically manufactured for the treatment of water for human consumption, in both municipal and industrial applications. This grade of activated carbon provides a high removal efficiency against a variety of aqueous pollutants, especially organic matter and taste and odour compounds. AquaSorb® CB1-MW is available in a closely controlled particle size distribution to suit all downstream separation techniques. The material is compliant with international standards for activated carbon products used in this application.



#### SPECIFICATION\*

Iodine adsorption	min. 950 mg/g
Total ash content	max. 15 %
Moisture content	max. 5 %
Apparent density, tamped	0.2 - 0.75g/cc
Water solubles	max. 3 %

#### TYPICAL PROPERTIES\*

Surface area (BET N <sub>2</sub> )	1000 m <sup>2</sup> /g
Tannin value	250 mg/l

\* SPECIFICATIONS AND TYPICAL PROPERTIES ARE PRODUCED USING JACOBI CARBONS' TEST METHODS. THEY ARE LISTED FOR INFORMATIONAL PURPOSES ONLY AND NOT TO BE USED AS PURCHASE SPECIFICATIONS. SALES SPECIFICATIONS CAN BE OBTAINED FROM YOUR JACOBI CARBONS TECHNICAL SALES REPRESENTATIVE AND SHOULD BE REVIEWED BEFORE PLACING AN ORDER.

#### Features and Benefits

- Rapid adsorption kinetics
- Very high activity adsorbent
- Mesoporous product
- Excellent taste and odour removal
- High organic matter adsorption
- Carefully controlled particle size
- Compliant with AWWA B600 standard

#### Available Particle Sizes

- <100 mesh >99%
- <200 mesh >95%
- <325 mesh >90%

#### Standards and Certifications

- AWWA B600
- ANSI/NSF61
- Halal certified production
- Kosher certified production
- ISO 9000:2008
- ISO 14001:2004

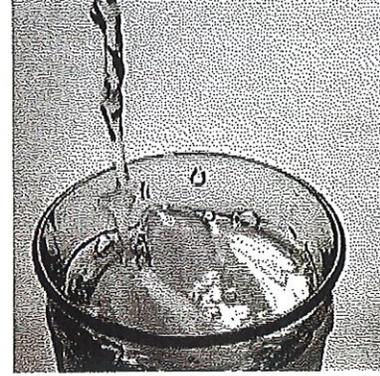
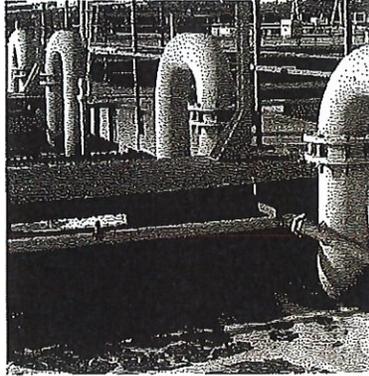
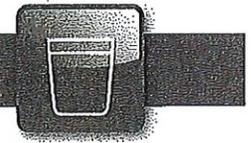
#### Standard Packaging

- 15 kg sack (33 lb)
- 300 kg bulk bag (660 lb)
- Bulk tanker
- Other packing considered on request



Polypropylene liner-free FIBCs (super sacks), two bags per pallet

Visit: [www.jacobi.net](http://www.jacobi.net)



## TASTE AND ODOUR REMOVAL

### Methyl-Iso Borneol

Influent concentration		127ng/l
AquaSorb CBI-MW at 10mg/l dose	Effluent concentration	67ng/l
	Removal efficiency	47%
AquaSorb CBI-MW at 40mg/l dose	Effluent concentration	21ng/l
	Removal efficiency	83%

### Geosmin

Influent concentration		187ng/l
AquaSorb CBI-MW at 10mg/l dose	Effluent concentration	70ng/l
	Removal efficiency	62%
AquaSorb CBI-MW at 40mg/l dose	Effluent concentration	7ng/l
	Removal efficiency	96%

DATA BASED ON INDEPENDENT TESTING BY AUSTRALIAN WATER QUALITY CENTRE WITH PACS DOSED AS A PREWEIGHTED SLURRY AT 10 AND 40 JIG/L INTO 2 LITRE VOLUMES OF STABILISED TAP WATER CONTAINING 100HQ/L TARGET CONCENTRATIONS OF METHYLISOBORNEOL (MIB) AND GEOSMIN. CONTACT WAS MAINTAINED BY MIXING FOR 20 MINUTES AT 100RPM WITH A FLAT-BLADE PADDLE STIRRER. TREATED WATER WAS MAINTAINED BY FILTRATION THROUGH 1µM PORE SIZE PAPER FILTERS AND ANALYSED FOR MIB AND GEOSMIN AGAINST THE POSITIVE SPIKED CONTROL.

## BURNING AND EXPLOSION CHARACTERISTICS

Auto-ignition temperature	400cm <sup>3</sup>	160 °C
	6400cm <sup>3</sup>	150 °C
	12800cm <sup>3</sup>	130 °C
Smolder temperature	No smoldering up to 400 °C	
Dust explosion class	St1 (weak explosion potential)	
Combustion factor	BZ3: no spread of fire	
Minimum ignition energy	>1100mJ	
Minimum ignition temperature	>400°C	
Lower explosion limit	250g/m <sup>3</sup>	
Electrical resistivity	0.05 x 10 <sup>4</sup> Ω/cm	
Explosion severity (20l sphere)	P max.	8 bar
	MRE (ΔP)	33 bar/s
	Kmax or Kst	88 bar/m/s

DATA PROVIDED IS INDICATIVE ONLY AND BASED ON THE ANALYSIS OF MATERIAL UNDER SPECIFIC CONDITIONS. THESE MAY NOT BE REPRESENTATIVE OF PREVAILING CIRCUMSTANCES DURING THE HANDLING AND USE OF THIS ACTIVATED CARBON GRADE.

For more information or to contact Jacobi visit: [www.jacobi.net](http://www.jacobi.net)

## PRODUCTION CAPABILITY

Jacobi Carbons operates multiple facilities for the manufacture of activated carbons. These production plants are strategically located close to market and raw material sources. With an annual output in excess of 70 000 metric tonnes, Jacobi Carbons is able to supply product to all locations around the globe. All production units are certified according to internationally recognised standards (ISO9000 & ISO14001). Quality control is consistent throughout the group of companies and goods are always shipped in compliance with customer specifications.

## CARBON APPLICATION KNOWLEDGE

The supply of activated carbon products is supported by an industry-leading technical support service. Our in-house expertise extends over many years of practical experience in the design and utilisation of activated carbon in a variety of applications. Jacobi Carbons can assist in the design, specification and method of use of our products to achieve the optimum treatment outcome required. Our laboratory facilities support our product portfolio with a extensive library of technical data.



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