



ECS
MUNICIPAL

Activated Carbon Replacements in Odor Control Units

Scope of Supply

Lexington-Fayette Urban County Government

Invitation to Bid #29-2025
Addendums 1 through 2

Proposal Opportunity #: 06243
Bid Date: March 21, 2025

ECS Municipal AfterMarket
Carrie Jones

2201 Taylors Valley Road
Belton, Texas 76513

Direct (254) 493-1375
Fax (254) 933-2212

Industry Leading Air Pollution Control Systems



LEXINGTON

Lexington-Fayette Urban County Government

Lexington, Kentucky
Horse Capital of the World

Division of Procurement

Date of Issue: 03/05/2025

INVITATION TO BID #29-2025 Activated Carbon Replacements in Odor Control Units

Bid Opening Date: 03/21/2025

Bid Opening Time: 2:00 PM

Address: All bids must be submitted on line at <https://lexingtonky.ionwave.net/>

Type of Bid: Price Contract

Pre Bid Meeting: N/A

Pre Bid Time: N/A

Address: N/A

Sealed bids will ONLY be received online at <https://lexingtonky.ionwave.net/> until **2:00 PM**, prevailing local time on 03/21/2025. Bids must be submitted/uploaded by the above-mentioned date and time.

Bids are to include all shipping, handling and associated fees to the point of delivery (unless otherwise specified in the bid documents below) located at: Lexington, KY

<input checked="" type="checkbox"/> Bid Specifications Met <i>attached to bid proposal submitted.</i>	Check One: <input checked="" type="checkbox"/> NA Exceptions to Bid Specifications. <i>Exceptions shall be itemized and</i>	Proposed Delivery: <u>30</u> days after acceptance of bid.
Procurement Card Usage —The Lexington-Fayette Urban County Government may be using Procurement Cards to purchase goods and services and also to make payments. Will you accept Procurement Cards? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		

To expedite award, the forms in this document should be completed and uploaded with your bid.

Submitted by: ECS Environmental Solutions
Firm Name
2201 Taylor Valley Road
Address
Belton, Texas 76513
City, State & Zip

Bid must be signed: Carrie Jones, After Market RSM
Signature of Authorized Company Representative – Title
Carrie Jones, After Market RSM
Representative's Name (Typed or printed)
254-493-1375
Area Code - Phone – Extension Fax #
carrie.jones@ecs-env.com
E-Mail Address

The Affidavit in this bid must be completed before your firm can be considered for award of this contract.

AFFIDAVIT

Comes the Affiant, ECS-ENV., and after being first duly sworn under penalty of perjury as follows:

1. His/her name is Carrie Jones and he/she is the individual submitting the bid or is the authorized representative of ECS Environmental Solutions, the entity submitting the bid (hereinafter referred to as "Bidder")
2. Bidder will pay all taxes and fees, which are owed to the Lexington-Fayette Urban County Government at the time the bid is submitted, prior to award of the contract and will maintain a "current" status in regard to those taxes and fees during the life of the contract.
3. Bidder will obtain a Lexington-Fayette Urban County Government business license, if applicable, prior to award of the contract.
4. Bidder has authorized the Division of Procurement to verify the above-mentioned information with the Division of Revenue and to disclose to the Urban County Council that taxes and/or fees are delinquent or that a business license has not been obtained.
5. Bidder has not knowingly violated any provision of the campaign finance laws of the Commonwealth of Kentucky within the past five (5) years and the award of a contract to the Bidder will not violate any provision of the campaign finance laws of the Commonwealth.
6. Bidder has not knowingly violated any provision of Chapter 25 of the Lexington-Fayette Urban County Government Code of Ordinances, known as "Ethics Act."
7. Bidder acknowledges that "knowingly" for purposes of this Affidavit means, with respect to conduct or to circumstances described by a statute or ordinance defining an offense, that a person is aware or should have been aware that his conduct is of that nature or that the circumstance exists.

Further, Affiant sayeth naught. _____

STATE OF Texas

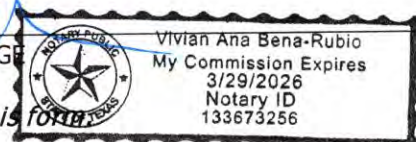
COUNTY OF Bell

The foregoing instrument was subscribed, sworn to and acknowledged before me

by Carrie Jones on this the 19th day
of March, 2025

My Commission expires: 3/29/2026

NOTARY PUBLIC, STATE AT LARGE



Please refer to Section II. Bid Conditions, Item "U" prior to completing this form

I. GREEN PROCUREMENT

A. ENERGY

The Lexington-Fayette Urban County Government is committed to protecting our environment and being fiscally responsible to our citizens.

The Lexington-Fayette Urban County Government mandates the use of Energy Star compliant products if they are available in the marketplace (go to www.Energystar.gov). If these products are available, but not submitted in your pricing, your bid will be rejected as non-compliant.

ENERGY STAR is a government program that offers businesses and consumers energy-efficient solutions, making it easy to save money while protecting the environment for future generations.

Key Benefits

These products use 25 to 50% less energy
Reduced energy costs without compromising quality or performance
Reduced air pollution because fewer fossil fuels are burned
Significant return on investment
Extended product life and decreased maintenance

B. GREEN SEAL CERTIFIED PRODUCTS

The Lexington-Fayette Urban County Government is also committed to using other environmentally friendly products that do not negatively impact our environment. Green Seal is a non-profit organization devoted to environmental standard setting, product certification, and public education.

Go to www.Greenseal.org to find available certified products. These products will have a reduced impact on the environment and on human health. The products to be used must be pre-approved by the LFUCG prior to commencement of any work in any LFUCG facility. If a Green Seal product is not available, the LFUCG must provide a signed waiver to use an alternate product. Please provide information on the Green Seal products being used with your bid response.

C. GREEN COMMUNITY

The Lexington-Fayette Urban County Government (LFUCG) serves as a principal, along with the University of Kentucky and Fayette County Public Schools, in the Bluegrass Partnership for a Green Community. The Purchasing Team component of the Partnership collaborates on economy of scale purchasing that promotes and enhances environmental initiatives. Specifically, when applicable, each principal is interested in obtaining best value products and/or services which promote environment initiatives via solicitations and awards from the other principals.

If your company is the successful bidder on this Invitation For Bid, do you agree to extend the same product/service pricing to the other principals of the Bluegrass Partnership for a Green Community (i.e. University of Kentucky and Fayette County Schools) if requested?

Yes ☒ No ☐

II. Bid Conditions

- A. No bid may be withdrawn for a period of sixty (60) days after the date and time set for opening.
- B. No bid may be altered after the date and time set for opening. In the case of obvious errors, the Division of Procurement may permit the withdrawal of a bid. The decision as to whether a bid may be withdrawn shall be that of the Division of Procurement.
- C. Acceptance of this proposal shall be enactment of an Ordinance by the Urban County Council.
- D. The bidder agrees that the Urban County Government reserves the right to reject any and all bids for either fiscal

or technical reasons, and to award each part of the bid separately, all parts to one vendor or all parts to multiple vendors.

- E. Minor exceptions may not eliminate the bidder. The decision as to whether any exception is minor shall be entirely that of the head of the requisitioning Department or Division and the Director of the Division of Procurement. The Urban County Government may waive technicalities and informalities where such waiver would best serve the interests of the Urban County Government.
- F. Manufacturer's catalogue numbers, trade names, etc., where shown herein are for descriptive purposes and are to guide the bidder in interpreting the standard of quality, design, and performance desired, and shall not be construed to exclude proposals based on furnishing other types of materials and/or services. However, any substitution or departure proposed by the bidder must be clearly noted and described; otherwise, it will be assumed that the bidder intends to supply items specifically mentioned in this Invitation for Bids.
- G. The Urban County Government may require demonstrations of the materials proposed herein prior to acceptance of this proposal.
- H. Bids must be submitted on this form and must be signed by the bidder or his authorized representative. Unsigned bids will not be considered.
- I. Bids must be submitted prior to the date and time indicated for opening. Bids submitted after this time will not be considered.
- J. All bids mailed must be submitted in the Ion Wave online portal at <https://lexingtonky.ionwave.net/>
- K. Bidder is requested to show both unit prices and lot prices. In the event of error, the unit price shall prevail.
- L. A certified check or Bid Bond in the amount of XX percent of the bid price must be attached hereto. This check must be made payable to the Lexington-Fayette Urban County Government, and will be returned when the material and/or services specified herein have been delivered in accordance with specifications. In the event of failure to perform within the time period set forth in this bid, it is agreed the certified check may be cashed and the funds retained by the Lexington-Fayette Urban County Government as liquidated damages. Checks of unsuccessful bidders will be returned when the bid has been awarded.
- M. The delivery dates specified by bidder may be a factor in the determination of the successful bidder.
- N. Tabulations of bids received may be mailed to bidders. Bidders requesting tabulations must enclose a stamped, self-addressed envelope with the bid.
- O. The Lexington-Fayette Urban County Government is exempt from Kentucky Sales Tax and Federal Excise Tax on materials purchased from this bid invitation. Materials purchased by the bidder for construction projects are not tax exempt and are the sole responsibility of the bidder.
- P. All material furnished hereunder must be in full compliance with OSHA regulations.
- Q. If more than one bid is offered by one party, or by any person or persons representing a party, all such bids shall be rejected.
- R. Signature on the face of this bid by the Bidder or his authorized representative shall be construed as acceptance of and compliance with all terms and conditions contained herein.
- S. The Entity (regardless of whether construction contractor, non-construction contractor or supplier) agrees to provide equal opportunity in employment for all qualified persons, to prohibit discrimination in employment because of race, color, religion, sex (including pregnancy, sexual orientation or gender identity), national origin, disability, age, genetic information, political affiliation, or veteran status, and to promote equal employment through a positive, continuing program from itself and each of its sub-contracting agents. This program of equal employment opportunity shall apply to every aspect of its employment policies and practices.
- T. The Kentucky Equal Employment Opportunity Act of 1978 (KRS 45.560-45.640) requires that any county, city, town, school district, water district, hospital district, or other political subdivision of the state shall include in directly

or indirectly publicly funded contracts for supplies, materials, services, or equipment hereinafter entered into the following provisions:

During the performance of this contract, the contractor agrees as follows:

- (1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, age or national origin;*
- (2) The contractor will state in all solicitations or advertisements for employees placed by or on behalf of the contractors that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, age or national origin;*
- (3) The contractor will post notices in conspicuous places, available to employees and applicants for employment, setting forth the provisions of the non-discrimination clauses required by this section; and*
- (4) The contractor will send a notice to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding advising the labor union or workers' representative of the contractor's commitments under the nondiscrimination clauses.*

The Act further provides:

KRS 45.610. Hiring minorities - Information required

- (1) For the length of the contract, each contractor shall hire minorities from other sources within the drawing area, should the union with which he has collective bargaining agreements be unwilling to supply sufficient minorities to satisfy the agreed upon goals and timetable.*
- (2) Each contractor shall, for the length of the contract, furnish such information as required by KRS 45.560 to KRS 45.640 and by such rules, regulations and orders issued pursuant thereto and will permit access to all books and records pertaining to his employment practices and work sites by the contracting agency and the department for purposes of investigation to ascertain compliance with KRS 45.560 to 45.640 and such rules, regulations and orders issued pursuant thereto.*

KRS 45.620. Action against contractor - Hiring of minority contractor or subcontractor

- (1) If any contractor is found by the department to have engaged in an unlawful practice under this chapter during the course of performing under a contract or subcontract covered under KRS 45.560 to 45.640, the department shall so certify to the contracting agency and such certification shall be binding upon the contracting agency unless it is reversed in the course of judicial review.*
- (2) If the contractor is found to have committed an unlawful practice under KRS 45.560 to 45.640, the contracting agency may cancel or terminate the contract, conditioned upon a program for future compliance approved by the contracting agency and the department. The contracting agency may declare such a contractor ineligible to bid on further contracts with that agency until such time as the contractor complies in full with the requirements of KRS 45.560 to 45.640.*
- (3) The equal employment provisions of KRS 45.560 to 45.640 may be met in part by a contractor by subcontracting to a minority contractor or subcontractor. For the provisions of KRS 45.560 to 45.640, a minority contractor or subcontractor shall mean a business that is owned and controlled by one or more persons disadvantaged by racial or ethnic circumstances.*

KRS 45.630 Termination of existing employee not required, when

Any provision of KRS 45.560 to 45.640 notwithstanding, no contractor shall be required to terminate an existing employee upon proof that that employee was employed prior to the date of the contract.

KRS 45.640 Minimum skills

Nothing in KRS 45.560 to 45.640 shall require a contractor to hire anyone who fails to demonstrate the minimum skills required to perform a particular job.

It is recommended that all of the provisions above quoted to be included as special conditions in each contract.

In the case of a contract exceeding \$250,000, the contractor is required to furnish evidence that his work-force in Kentucky is representative of the available work-force in the area from which he draws employees, or to supply an Affirmative Action plan which will achieve such representation during the life of the contract.

- U. Any party, firm or individual submitting a proposal pursuant to this invitation must be in compliance with the requirements of the Lexington-Fayette Urban County Government regarding taxes and fees before they can be considered for award of this invitation and must maintain a "current" status with regard to those taxes and fees throughout the term of the contract. The contractor must be in compliance with Chapter 13 from the Code of Ordinances of the Lexington-Fayette Urban County Government. The contractor must be in compliance with Ordinance 35-2000 pursuant to contractor registration with the Division of Building Inspection. If applicable, said business must have a Fayette County business license.

Pursuant to KRS 45A.343 and KRS 45A.345, the contractor shall

- (1) *Reveal any final determination of a violation by the contractor within the previous five year period pursuant to KRS Chapters 136 (corporation and utility taxes), 139 (sales and use taxes), 141 (income taxes), 337 (wages and hours), 338 (occupational safety and health of employees), 341 (unemployment and compensation) and 342 (labor and human rights) that apply to the contractor; and*
- (2) *Be in continuous compliance with the above-mentioned KRS provisions that apply to the contractor for the duration of the contract.*

A contractor's failure to reveal the above or to comply with such provisions for the duration of the contract shall be grounds for cancellation of the contract and disqualification of the contractor from eligibility for future contracts for a period of two (2) years.

- V. Vendors who respond to this invitation have the right to file a notice of contention associated with the bid process or to file a notice of appeal of the recommendation made by the Director of Procurement resulting from this invitation.

Notice of contention with the bid process must be filed within 3 business days of the bid/proposal opening by (1) sending a written notice, including sufficient documentation to support contention, to the Director of the Division of Procurement or (2) submitting a written request for a meeting with the Director of Procurement to explain his/her contention with the bid process. After consulting with the Commissioner of Finance the Chief Administrative Officer and reviewing the documentation and/or hearing the vendor, the Director of Procurement shall promptly respond in writing findings as to the compliance with bid processes. If, based on this review, a bid process irregularity is deemed to have occurred the Director of Procurement will consult with the Commissioner of Finance, the Chief Administrative Officer and the Department of Law as to the appropriate remedy.

Notice of appeal of a bid recommendation must be filed within 3 business days of the bid recommendation by (1) sending a written notice, including sufficient documentation to support appeal, to the Director, Division of Procurement or (2) submitting a written request for a meeting with the Director of Procurement to explain his appeal. After reviewing the documentation and/or hearing the vendor and consulting with the Commissioner of Finance and the Chief Administrative Officer, the Director of Procurement shall in writing, affirm or withdraw the recommendation.

III. Procurement Contract Bid Conditions

- A. The terms of this agreement shall be for **1** year(s) from the date of acceptance of this contract by the Lexington-Fayette Urban County Government. This agreement may be automatically extended for an additional **3-1** year(s) renewals. This contract may be canceled by either party thirty (30) days after delivery by canceling party of written notice of intent to cancel to the other contracting party.
- B. Price Changes **(Space Checked Applies)**
 - (XXX)1. Prices quoted in response to the Invitation shall be firm prices for the first 365 days of the Procurement Contract. After 365 days, prices may be subject to revision and such changes shall be based on general industry changes. Revision may be either increases or decreases and may be requested by either party. There will be no more than one (1) price adjustment per year. Requests for price changes shall be received in writing at least twenty (20) days prior to the effective date and are subject to written acceptance before becoming effective. Proof of the validity of a request for revision shall be responsibility of the requesting party. The Lexington-Fayette Urban County Government shall receive the benefit of any decline that the seller shall offer his other accounts.
 - () 2. No provision for price change is made herein. Prices are to be firm for the term of this contract.
 - () 3. See bid specifications.
- C. If any contract item is not available from the vendor, the Lexington-Fayette Urban County Government, at its option, may permit the item to be back-ordered or may procure the item on the open market.
- D. All invoices must bear reference to the Lexington-Fayette Urban County Government Purchasing document numbers which are being billed.
- E. This contract may be canceled by the Lexington-Fayette Urban County Government if it is determined that the Bidder has failed to perform under the terms of this agreement, such cancellation to be effective upon receipt of written notice of cancellation by the Bidder.
- F. No substitutions for articles specified herein may be made without prior approval of the Division of Procurement.

EQUAL OPPORTUNITY AGREEMENT

Standard Title VI Assurance

The Lexington Fayette-Urban County Government, (hereinafter referred to as the "Recipient") hereby agrees that as a condition to receiving any Federal financial assistance from the U.S. Department of Transportation, it will comply with Title VI of the Civil Rights Act of 1964, 78Stat.252, 42 U.S.C. 2000d-4 (hereinafter referred to as the "Act"), and all requirements imposed by or pursuant to Title 49, Code of Federal Regulations, U.S. Department of Transportation, Subtitle A, Office of the Secretary, (49 CFR, Part 21) Nondiscrimination in Federally Assisted Program of the Department of Transportation – Effectuation of Title VI of the Civil Rights Act of 1964 (hereinafter referred to as the "Regulations") and other pertinent directives, no person in the United States shall, on the grounds of race, color, national origin, sex, age (over 40), religion, sexual orientation, gender identity, veteran status, or disability be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the Recipient receives Federal financial assistance from the U.S. Department of Transportation, including the Federal Highway Administration, and hereby gives assurance that will promptly take any necessary measures to effectuate this agreement. This assurance is required by subsection 21.7(a) (1) of the Regulations.

The Law

- Title VII of the Civil Rights Act of 1964 (amended 1972) states that it is unlawful for an employer to discriminate in employment because of race, color, religion, sex, age (40-70 years) or national origin.
- Executive Order No. 11246 on Nondiscrimination under Federal contract prohibits employment discrimination by contractor and sub-contractor doing business with the Federal Government or recipients of Federal funds. This order was later amended by Executive Order No. 11375 to prohibit discrimination on the basis of sex.
- Section 503 of the Rehabilitation Act of 1973 states: *The Contractor will not discriminate against any employee or applicant for employment because of physical or mental disability.*
- Section 2012 of the Vietnam Era Veterans Readjustment Act of 1973 requires Affirmative Action on behalf of disabled veterans and veterans of the Vietnam Era by contractors having Federal contracts.
- Section 206(A) of Executive Order 12086, Consolidation of Contract Compliance Functions for Equal Employment Opportunity, states: *The Secretary of Labor may investigate the employment practices of any Government contractor or sub-contractor to determine whether or not the contractual provisions specified in Section 202 of this order have been violated.*


The Lexington-Fayette Urban County Government practices Equal Opportunity in recruiting, hiring and promoting. It is the Government's intent to affirmatively provide employment opportunities for those individuals who have previously not been allowed to enter into the mainstream of society. Because of its importance to the local Government, this policy carries the full endorsement of the Mayor, Commissioners, Directors and all supervisory personnel. In following this commitment to Equal Employment Opportunity and because the Government is the benefactor of the Federal funds, it is both against the Urban County Government policy and illegal for the Government to let contracts to companies which knowingly or unknowingly practice discrimination in their employment practices. Violation of the above mentioned ordinances may cause a contract to be canceled and the contractors may be declared ineligible for future consideration.

Please sign this statement in the appropriate space acknowledging that you have read and understand the provisions contained herein. Return this document as part of your application packet.

Bidders

I/We agree to comply with the Civil Rights Laws listed above that govern employment rights of minorities, women, veteran status, disability and age.


Signature


Name of Business

GENERAL PROVISIONS OF BID CONTRACT

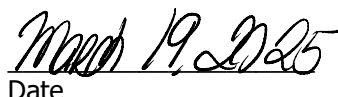
By signing the below, bidder acknowledges that it understands and agrees with the following provisions related to its bid response and the provision of any goods or services to LFUCG upon selection by LFUCG pursuant to the bid request:

1. Bidder shall comply with all Federal, State & Local regulations concerning this type of service or good. All applicable state laws, ordinances and resolutions (including but not limited to Section 2-33 (Discrimination due to sexual orientation or gender identity) and Chapter 13 (Licenses and Regulations) of the Lexington-Fayette Urban County Government Code of Ordinances, and Resolution No. 484-17 (Minority, Women, and Veteran-Owned Businesses)) and the regulations of all authorities having jurisdiction over the project shall apply to the contract, and shall be deemed to be incorporated herein by reference.
2. Failure to submit ALL forms and information required by LFUCG may be grounds for disqualification.
3. Addenda: All addenda and IonWave Q&A, if any, must be considered by the bidder in making its response, and such addenda shall be made a part of the requirements of the bid contract. Before submitting a bid response, it is incumbent upon bidder to be informed as to whether any addenda have been issued, and the failure of the bidder to cover any such addenda may result in disqualification of that response.
4. Bid Reservations: LFUCG reserves the right to reject any or all bid responses, to award in whole or part, and to waive minor immaterial defects in proposals. LFUCG may consider any alternative proposal that meets its basic needs.
5. Liability: LFUCG is not responsible for any cost incurred by bidder in the preparation of its response.
6. Changes/Alterations: Bidder may change or withdraw a proposal at any time prior to the opening; however, no oral modifications will be allowed. Only letters, or other formal written requests for modifications or corrections of a previously submitted proposal which is addressed in the same manner as the bid response, and received by LFUCG prior to the scheduled closing time for receipt of bids, will be accepted. The bid response when opened, will then be corrected in accordance with such written request(s), provided that the written request is contained in a sealed envelope which is plainly marked "modifications of bid response".
7. Clarification of Submittal: LFUCG reserves the right to obtain clarification of any point in a bid or to obtain additional information from any bidder.
8. Bribery Clause: By his/her signature on its response, bidder certifies that no employee of his/hers, any affiliate or subcontractor, has bribed or attempted to bribe an officer or employee of the LFUCG.
9. Additional Information: While not necessary, the bidder may include any product brochures, software documentation, sample reports, or other documentation that may assist LFUCG in better understanding and evaluating the bid response. Additional documentation shall not serve as a substitute for other documentation which is required by the LFUCG to be submitted with the bid response.
10. Ambiguity, Conflict or other Errors: If a bidder discovers any ambiguity, conflict, discrepancy, omission or other error in the bid request of LFUCG, it shall immediately notify LFUCG of such error in writing and request modification or clarification of the document if allowable by the LFUCG.
11. Agreement to Bid Terms: In submitting its bid response, the bidder agrees that it has carefully examined the specifications and all provisions relating to LFUCG's bid request, including but not limited to the bid contract. By submission of its bid response, bidder states that it understands the meaning, intent and requirements of LFUCG's bid request and agrees to the same. The successful bidder shall warrant that it is familiar with and understands all provisions herein and shall warrant that it can comply with them. No additional compensation to bidder shall be authorized for services, expenses, or goods reasonably covered under these provisions that the bidder omits from its bid response.
12. Cancellation: LFUCG may unilaterally terminate the bid contract with the selected bidder(s) at any time, with or without cause, by providing at least thirty (30) days advance written notice unless a different advance written notice

period is negotiated prior to contract approval. Payment for services or goods received prior to termination shall be made by the LFUCG provided these goods or services were provided in a manner acceptable to the LFUCG. Payment for those goods and services shall not be unreasonably withheld.

13. Assignment of Contract: The selected bidder(s) shall not assign or subcontract any portion of the bid contract with LFUCG without the express written consent of LFUCG. Any purported assignment or subcontract in violation hereof shall be void. It is expressly acknowledged that LFUCG shall never be required or obligated to consent to any request for assignment or subcontract; and further that such refusal to consent can be for any or no reason, fully within the sole discretion of LFUCG.
14. No Waiver: No failure or delay by LFUCG in exercising any right, remedy, power or privilege hereunder, nor any single or partial exercise thereof, nor the exercise of any other right, remedy, power or privilege shall operate as a waiver hereof or thereof. No failure or delay by LFUCG in exercising any right, remedy, power or privilege under or in respect of this bid proposal or bid contract shall affect the rights, remedies, powers or privileges of LFUCG hereunder or shall operate as a waiver thereof.
15. Authority to do Business: Each bidder must be authorized to do business under the laws of the Commonwealth of Kentucky and must be in good standing and have full legal capacity to provide the goods or services specified in the bid proposal. Each bidder must have all necessary right and lawful authority to submit the bid response and enter into the bid contract for the full term hereof including any necessary corporate or other action authorizing the bidder to submit the bid response and enter into this bid contract. If requested, the bidder will provide LFUCG with a copy of a corporate resolution authorizing this action and/or a letter from an attorney confirming that the proposer is authorized to do business in the Commonwealth of Kentucky. All bid responses must be signed by a duly authorized officer, agent or employee of the bidder.
16. Governing Law: This bid request and bid contract shall be governed by and construed in accordance with the laws of the Commonwealth of Kentucky. In the event of any proceedings regarding this matter, the bidder agrees that the venue shall be the Fayette County Circuit Court or the U.S. District Court for the Eastern District of Kentucky, Lexington Division and that the bidder expressly consents to personal jurisdiction and venue in such Court for the limited and sole purpose of proceedings relating to these matters or any rights or obligations arising thereunder.
17. Ability to Meet Obligations: Bidder affirmatively states that there are no actions, suits or proceedings of any kind pending against bidder or, to the knowledge of the bidder, threatened against the bidder before or by any court, governmental body or agency or other tribunal or authority which would, if adversely determined, have a materially adverse effect on the authority or ability of bidder to perform its obligations under this bid response or bid contract, or which question the legality, validity or enforceability hereof or thereof.
18. Price Discrepancy: When applicable, in case of price discrepancy, unit bid price written in words will prevail followed by unit price written in numbers then total amount bid per line item.
19. Bidder understands and agrees that its employees, agents, or subcontractors are not employees of LFUCG for any purpose whatsoever. Bidder is an independent contractor at all times related to the bid response or bid contract.
20. Contractor [or Vendor or Vendor's Employees] will not appropriate or make use of the Lexington-Fayette Urban County Government (LFUCG) name or any of its trade or service marks or property (including but not limited to any logo or seal), in any promotion, endorsement, advertisement, testimonial or similar use without the prior written consent of the government. If such consent is granted LFUCG reserves the unilateral right, in its sole discretion, to immediately terminate and revoke such use for any reason whatsoever. Contractor agrees that it shall cease and desist from any unauthorized use immediately upon being notified by LFUCG.
21. If any term or provision of this bid contract shall be found to be illegal or unenforceable, the remainder of the contract shall remain in full force and such term or provision shall be deemed stricken.


Signature


Date

WORKFORCE ANALYSIS FORM

Name of Organization:

KCS Environmental Solutions

Categories	Total	White (Not Hispanic or Latino)		Hispanic or Latino		Black or African- American (Not Hispanic or Latino)		Native Hawaiian and Other Pacific Islander (Not Hispanic or Latino)		Asian (Not Hispanic or Latino)		American Indian or Alaskan Native (not Hispanic or Latino)		Two or more races (Not Hispanic or Latino)		Total	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Administrators		1	2	0	0	0	0	0	0	0	0	0	0	0	0	1	2
Professionals		19	17	12	10	1	0	0	0	0	0	0	0	0	0	32	27
Superintendents		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Supervisors		1	0	2	1	0	0	0	0	0	0	0	0	0	0	3	1
Foremen		2	1	4	2	0	0	0	0	0	0	0	0	0	0	6	3
Technicians		1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
Protective Service		1	0	1	0	0	0	0	0	0	0	0	0	0	0	2	1
Para-Professionals		1	1	1	0	0	0	0	0	0	0	0	0	0	0	2	1
Office/Clerical		2	2	1	1	0	0	0	0	0	0	0	0	0	0	3	3
Skilled Craft		12	1	10	1	4	0	0	0	0	0	0	0	0	0	26	2
Service/Maintenance		3	0	1	0	0	0	0	0	0	0	0	0	0	0	4	0
Total:		43	24	32	15	5	0	0	0	0	0	0	0	0	0	80	40

Prepared by:

Carrie Jones, After Market RSM
(Name and Title)

Date:

03.19.2025

Revised 2015-Dec-15

**DIRECTOR, DIVISION OF PROCUREMENT
LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT
200 EAST MAIN STREET
LEXINGTON, KENTUCKY 40507**

**NOTICE OF REQUIREMENT FOR AFFIRMATIVE ACTION TO ENSURE
EQUAL EMPLOYMENT OPPORTUNITIES AND DBE CONTRACT PARTICIPATION**

The Lexington-Fayette Urban County Government has a Certified Minority and Women Business Enterprise seventeen percent (17%) minimum goal including minimum subgoals of five percent (5%) for Minority Business Enterprises (MBE) and a subgoal of twelve percent (12%) for Women Business Enterprises (WBE); a three (3%) minimum goal for Certified Veteran-Owned Small Businesses and/or Certified Service- Disabled Veteran Owned Businesses; and a goal of utilizing Disadvantaged Business Enterprises (DBE), where applicable, for government contracts.

For assistance in locating certified DBEs, MBEs, WBEs, VOSBs and/or VOSBs, contact Sherita Miller at 859/258-3320 or by writing the address listed below:

Sherita Miller, MPA, CPSD
Minority Business Enterprise Liaison
Division of Procurement
Lexington-Fayette Urban County Government
200 East Main Street
Lexington, Kentucky 40507
smiller@lexingtonky.gov
859-258-3323



LEXINGTON

MINORITY BUSINESS ENTERPRISE PROGRAM

Sherita Miller, MPA, CPSD
Minority Business Enterprise Liaison
Division of Procurement
Lexington-Fayette Urban County Government
200 East Main Street
Lexington, KY 40507
smiller@lexingtonky.gov
859-258-3323

OUR MISSION: The mission of the Minority Business Enterprise Program (MBEP) is to facilitate the full participation of minority and women owned businesses in the procurement process and to promote economic inclusion as a business imperative essential to the long- term economic viability of Lexington-Fayette Urban County Government.

To that end the urban county council adopted and implemented Resolution 272-2024 – a Certified Minority and Women Business Enterprise seventeen percent (17%) minimum goal including minimum subgoals of five percent (5%) for Minority Business Enterprises (MBE) and a subgoal of twelve percent (12%) for Women Business Enterprises (WBE); a three (3%) minimum goal for Certified Veteran-Owned Small Businesses and/or Certified Service- Disabled Veteran Owned Businesses; and a goal of utilizing Disadvantaged Business Enterprises (DBE), where applicable, for government contracts.

The resolution states the following definitions shall be used for the purposes of reaching these goals:

Certified Disadvantaged Business Enterprise (DBE) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a person(s) who is socially and economically disadvantaged as define by 49 CFR subpart 26.

Certified Minority Business Enterprise (MBE) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by an ethnic minority (i.e. Black American, Asian American, Hispanic American, Native American)

Certified Women Business Enterprise (WBE) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a woman.

Certified Veteran-Owned Small Business (VOSB) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a veteran who served on active duty with the U.S. Army, Air Force, Navy, Marines or Coast Guard.

Certified Service -Disabled Veteran Owned Small Business (SDVOSB) – a business in which at least fifty-one percent (51%) is owned, managed and controlled by a disabled veteran who served on active duty with the U.S. Army, Air Force, Navy, Marines or Coast Guard.

The term “Certified” shall mean the business is appropriately certified, licensed, verified, or validated by an organization or entity recognized by the Division of Procurement as having the appropriate credentials to make a determination as to the status of the business.

The following certifications are recognized and accepted by the MBEP:

Kentucky Transportation Cabinet (KYTC), Disadvantaged Business Enterprise (DBE)
Kentucky Minority and Women Business Enterprise (MWBE)
Women's Business Enterprise National Council (WBENC)
National Women Business Owners Corporation (NWBOC)
National Minority Supplier Development Council (NMSDC)
Tri-State Minority Supplier Development Council (TSMSSDC)
U.S. Small Business Administration Veteran Small Business Certification (VetCert)
Kentucky Service- Disabled Veteran Owned Small Business (SDVOSB)

To comply with Resolution 272-2024, prime contractors, minority and women business enterprises, veteran owned small businesses, and service-disabled veteran owned small businesses must complete monthly contract compliance audits in the Diverse Business Management Compliance system, <https://lexingtonky.diversitycompliance.com/>

A list of organizations that certify and/or maintain lists of certified businesses (i.e. DBE, MBE, WBE, VOSB and/or SDVOSB) is available upon request by emailing, Sherita Miller, smiller@lexingtonky.gov.



LEXINGTON

LFUCG MWDBE PARTICIPATION FORM

Bid/RFP/Quote Reference # 29-2025

The MWDBE and/or veteran subcontractors listed have agreed to participate on this Bid/RFP/Quote. If any substitution is made or the total value of the work is changed prior to or after the job is in progress, it is understood that those substitutions must be submitted to the Division of Procurement for approval immediately. **Failure to submit a completed form may cause rejection of the bid.**

MWBE Company, Name, Address, Phone, Email	DBE/MBE WBE/VOSB/SDVOSB	Work to be Performed	Total Dollar Value of the Work	% Value of Total Contract
1.				
2.				
3.				
4.				

The undersigned company representative submits the above list of MDWBE and veteran firms to be used in accomplishing the work contained in this Bid/RFP/Quote. Any misrepresentation may result in the termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

Company

Company Representative

Date

Title



LFUCG MWDBE SUBSTITUTION FORM

Bid/RFP/Quote Reference # 29-2025

The substituted MWDBE and/or veteran subcontractors listed below have agreed to participate on this Bid/RFP/Quote. These substitutions were made prior to or after the job was in progress. These substitutions were made for reasons stated below and are now being submitted to the Division of Procurement for approval. By the authorized signature of a representative of our company, we understand that this information will be entered into our file for this project. **Note: Form required if a subcontractor is being substituted on a contract.**

SUBSTITUTED DBE/MBE/WBE/VOSB Company Name, Address, Phone, Email	DBE/MBE/WBE/VOSB/SDVOSB Formally Contracted/ Name, Address, Phone, Email	Work to Be Performed	Reason for the Substitution	Total Dollar Value of the Work	% Value of Total Contract
1.					
2.					
3.					
4.					

The undersigned acknowledges that any misrepresentation may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and false claims.

Company

Company Representative

Date

Title



DOCUMENTATION REQUIRED FOR GOOD FAITH EFFORTS AND OUTREACH PLANS

As affirmed in Resolution Number 272-2024, the Urban County Council has adopted an annual aspirational goal of utilizing at least seventeen percent (17%) of public funds spend from certain discretionary agreements with certified Minority Business Enterprises (MBEs) and certified Woman Business Enterprises (WBEs); utilizing at least three percent (3%) of public funds from certain discretionary agreements with Certified Veteran-Owned Small Business and Certified Service-Disabled Veteran-Owned Small Businesses (VOSBs); and utilizing Disadvantaged Business Enterprises (DBEs) where applicable. Bidders should make every effort to achieve these goals.

Therefore, as an element of the responsiveness of the bid, all Bidders are required to submit documentation of their good faith and outreach efforts to ensure all businesses, including small and disadvantaged businesses such as minority-, woman-, and veteran-owned businesses, have an equal opportunity to compete for and participate in the performance of any subcontracts resulting from this procurement. Examples of good faith and outreach efforts that satisfy this requirement to encourage the participation of, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs include:

1. Advertised opportunities to participate in the contract in at least two (2) publications of general circulation media; trade and professional association publications; small and minority business or trade publications; and publications or trades targeting minority, women, and disadvantaged businesses not less than fifteen (15) days prior to the deadline for submission of bids to allow, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs to participate.
2. Attended LFUCG Procurement Economic Inclusion Outreach event(s) within the past year to meet new small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs to partner with on LFUCG contracts and procurements.
3. Attended pre-bid/pre-proposal meetings that were scheduled by LFUCG to inform small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs of subcontracting opportunities.
4. Sponsored Economic Inclusion event to provide networking opportunities for prime contractors and small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs.
5. Requested a list of certified small, DBE, MBE, WBE, VOSB and/or SDVOSB subcontractors or suppliers from LFUCG and showed evidence of contacting the companies on the list(s).
6. Contacted organizations that work with small, DBE, MBE, WBE, and VOSB companies for assistance in finding certified DBEs, MBEs, WBEs, VOSB and/or SDVOSBs to work on this project. Those contacted and their responses must be a part of the bidder's outreach efforts documentation.
7. Sent written notices, by certified mail, email, or facsimile, to qualified, certified small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs soliciting their participation in the contract not less than seven (7) days prior to the deadline for submission of bids to allow them to participate effectively.
8. Followed up initial solicitations by contacting small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs via tailored communications to determine their level of interest.

9. Provided the interested small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs with adequate and timely information about the plans, specifications, and requirements of the contract.
10. Selected portions of the work to be performed by small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs in order to increase the likelihood of subcontracting participation. This includes, where appropriate, breaking out contract work items into economically feasible units to facilitate small, DBE, MBE, WBE, VOSB and/or SDVOSB participation, even when the prime contractor may otherwise perform these work items with its own workforce.
11. Negotiated in good faith with interested small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs, not rejecting them as unqualified without sound reasons based on a thorough investigation of their capabilities. Any rejection must be so noted in writing with a description as to why an agreement could not be reached.
12. Included documentation of quotations received from interested small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs that were not used due to uncompetitive pricing or were rejected as unacceptable and/or copies of responses from firms indicating that they would not be submitting a bid.
 - a. Bidder has to submit sound reasons why the quotations were considered unacceptable. The fact that the bidder has the ability and/or desire to perform the contract work with its own forces will not be considered a sound reason for rejecting a small business', DBE's MBE's, WBE's, VOSB's and/or SDVOSB's quote. Nothing in this provision shall be construed to require the bidder to accept unreasonable quotes in order to satisfy the participation goals.
13. Made an effort to offer assistance to or refer interested small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs to obtain the necessary equipment, supplies, materials, insurance and/or bonding to satisfy the work requirements of the bid proposal.
14. Made efforts to expand the search for small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs beyond the usual geographic boundaries.
15. Other – any other evidence that the bidder submits that may demonstrate that the bidder has made reasonable efforts to include small, DBE, MBE, WBE, VOSB and/or SDVOSB participation.

Bidder must document, with specificity, each of the efforts it made to include small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs as subcontractors in the procurement, including the date on which each effort was made, the medium through which each effort was made, and the outcome of each effort.

Note: Failure to submit the documentation requested in this section may be cause for rejection of bid. Bidders may include any other documentation deemed relevant to this requirement which is subject to review by the MBE Liaison. Documentation of Good Faith and Outreach Efforts must be submitted with the Bid, regardless of the proposed level of small, DBE, MBE, WBE, VOSB and/or SDVOSB participation in the procurement. If the Good Faith and Outreach Effort documentation is not submitted with the bid response, the bid may be rejected.

OUTREACH EFFORTS EVALUATION

Outreach efforts demonstrated by the bidder or respondent will be evaluated on a pass/fail basis.

ATTACHMENT A – SMALL AND DISADVANTAGED, MINORITY-, WOMEN-, AND VETERAN-OWNED BUSINESS OUTREACH PLAN

Proposer Name: _____ Date: _____
Project Name: _____ Project Number: _____
Contact Name: _____ Telephone: _____
Email: _____

The mission of the Minority Business Enterprise Program is to facilitate the full participation of disadvantaged businesses, minority-, women-, veteran-, and service-disabled veteran-owned businesses in the procurement process and to promote economic inclusion as a business imperative essential to the long-term economic viability of Lexington-Fayette Urban County Government.

To that end, small and disadvantaged businesses, including minority-, woman-, veteran-, and service-disabled veteran-owned businesses, must have an equal opportunity to be utilized in the performance of contracts with public funds spent from certain discretionary agreements. By submitting its offer, Bidder/Proposer certifies that it has taken, and if there are further opportunities will take, reasonable steps to ensure that small and disadvantaged businesses, including minority-, woman-, veteran-, and service-disabled veteran-owned businesses, are provided an equal opportunity to compete for and participate in the performance of any subcontracts resulting from this procurement.

The information submitted in response to this clause will not be considered in any scored evaluation. Failure to submit this form may cause the bid or proposal to be rejected.

Is the Bidder/ Proposer a certified firm? Yes ☐ No ☐

If yes, indicate all certification type(s):

DBE ☐ MBE ☐ WBE ☐ SBE ☐ VOSB/SDVOSB ☐

and supply a copy of the certificate and/or certification letter if not currently listed on the city's Minority Business Enterprise Program's (MBEP) certified list.

1. Include a list of firms that Bidder/ Proposer has had a contractual relationship with within the last two years that are minority-owned, woman-owned, veteran-owned or small businesses, regardless of their certification status.

 Click or tap here to enter text. 

2. Does Bidder/Proposer foresee any subcontracting opportunities for this procurement?

Yes ☐ No ☐

If no, please explain why in the field below. Do not complete the rest of this form and submit this first page with your bid and/or proposal.  Click or tap here to enter text.)

If yes, please complete the following pages and submit all pages with your bid and/or proposal.

Describe the steps Bidder/Proposer took to solicit small and disadvantaged businesses, including MBEs, WBEs, VOSBs, and SDVOSBs, for subcontracting opportunities for this procurement.

3. Check the good faith and outreach efforts the Bidder/Proposer used to encourage the participation of small and disadvantaged businesses including, MBEs, WBEs, VOSBs and SDVOSBs:

- ☐ Bidder placed advertisements in search of prospective small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs for the solicitation.
- ☐ Bidder attended LFUCG Procurement Economic Inclusion Outreach event(s) within the past year.
- ☐ Bidder attended pre-bid and/or pre-proposal meetings for this solicitation.
- ☐ Bidder sponsored an Economic Inclusion Outreach event.
- ☐ Bidder requested a list of certified small, DBE, MBE, WBE, VOSB and/or SDVOSB subcontractors or suppliers from LFUCG.
- ☐ Bidder contacted organizations that work with small, DBE, MBE, WBE, VOSB and/or SDVOSB companies.
- ☐ Bidder sent written notices to certified small, DBE, MBE, WBE, VOSB and SDVOSB businesses.
- ☐ Bidder followed up to initial solicitations with interested small, DBE, MBE, WBE, VOSB and/or SDVOSB.
- ☐ Bidder provided small, DBE, MBE, WBE, VOSB and/or SDVOSB businesses interested in performing the solicited work with prompt access to the plans, specifications, scope of work, and requirements of the solicitation.
- ☐ Bidder made efforts to segment portions of the work to be performed by small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs, including dividing sub-bid/partnership opportunities into economically feasible units/parcels, to facilitate participation.

- ☐ Bidder negotiated in good faith with interested small, DBE, MBE, WBE, VOSB and/or SDVOSB businesses.
- ☐ Bidder provided adequate rationale for rejecting any small business', DBEs, MBEs, WBEs, VOSBs or SDVOSBs for lack of qualifications.
- ☐ Bidder offered assistance in obtaining bonding, insurance, financial, equipment, or other resources to small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs, in an effort to assist them in meeting project requirements.
- ☐ Bidder made efforts to expand the search for small businesses, DBEs MBEs, WBEs, VOSBs and/or SDVOSBs beyond the usual geographic boundaries.
- ☐ Bidder made other reasonable efforts to include small businesses, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs participation.

4. Bidder/Proposer must include documentation, including the date each effort was made, the medium through which each effort was made, and the outcome of each effort with this form, regardless of the level of small, DBE, MBE, WBE, VOSB and/or SDVOSB participation. Examples of required documentation include copies of email communications, copies of newspaper advertisements, or copies of quotations received from interested small businesses, DBEs, MBEs, WBEs, VOSBs or SDVOSBs.

 Click or tap here to enter text. 

For detailed information regarding outreach efforts that satisfy the MBE Program's requirements, please see "Documentation Required for Good Faith Efforts and Outreach Plans" page.

Note: The Bidder/Proposer must be willing to report the identity of each subcontractor and the value of each subcontract to MBEP if awarded a contract from this procurement.

Failure to submit the documentation requested may be cause for rejection of the bid. Bidders may include any other documentation deemed relevant to this requirement, which is subject to review by the MBE Liaison. Documentation of Good Faith and Outreach Efforts must be submitted with the bid, regardless of the proposed level of SBEs, DBEs, MBEs, WBEs, VOSBs and/or SDVOSBs participation in the procurement. If the Good Faith and Outreach Effort Form and associated documentation is not submitted with the bid response, the bid may be rejected.

The undersigned acknowledges that all information is accurate. Any misrepresentations may result in termination of the contract and/or be subject to applicable Federal and State laws concerning false statements and claims.

Company

Company Representative

Date

Title

4870-1925-6809, v. 1

A large, stylized handwritten signature in black ink, consisting of a large loop on the left and a more complex, multi-stroke mark on the right.

RISK MANAGEMENT PROVISIONS INSURANCE AND INDEMNIFICATION

INDEMNIFICATION AND HOLD HARMLESS PROVISION

- (1) It is understood and agreed by the parties that Contractor hereby assumes the entire responsibility and liability for any and all damages to persons or property caused by or resulting from or arising out of any act or omission on the part of Contractor or its employees, agents, servants, owners, principals, licensees, assigns or subcontractors of any tier (hereinafter "CONTRACTOR") under or in connection with this agreement and/or the provision of goods or services and the performance or failure to perform any work required thereby.
- (2) CONTRACTOR shall indemnify, save, hold harmless and defend the Lexington-Fayette Urban County Government and its elected and appointed officials, employees, agents, volunteers, and successors in interest (hereinafter "LFUCG") from and against all liability, damages, and losses, including but not limited to, demands, claims, obligations, causes of action, judgments, penalties, fines, liens, costs, expenses, interest, defense costs and reasonable attorney's fees that are in any way incidental to or connected with, or that arise or are alleged to have arisen, directly or indirectly, from or by CONTRACTOR's performance or breach of the agreement and/or the provision of goods or services provided that: (a) it is attributable to personal injury, bodily injury, sickness, or death, or to injury to or destruction of property (including the loss of use resulting therefrom), or to or from the negligent acts, errors or omissions or willful misconduct of the CONTRACTOR; and (b) not caused solely by the active negligence or willful misconduct of LFUCG.
- (3) In the event LFUCG is alleged to be liable based upon the above, CONTRACTOR shall defend such allegations and shall bear all costs, fees and expenses of such defense, including but not limited to, all reasonable attorneys' fees and expenses, court costs, and expert witness fees and expenses, using attorneys approved in writing by LFUCG, which approval shall not be unreasonably withheld.
- (4) These provisions shall in no way be limited by any financial responsibility or insurance requirements, and shall survive the termination of this agreement.
- (5) LFUCG is a political subdivision of the Commonwealth of Kentucky. CONTRACTOR acknowledges and agrees that LFUCG is unable to provide indemnity or otherwise save, hold harmless, or defend the CONTRACTOR in any manner.

FINANCIAL RESPONSIBILITY

BIDDER/CONTRACTOR understands and agrees that it shall demonstrate the ability to assure compliance with the above Indemnity provisions and these other risk management provisions prior to final acceptance of its bid and the commencement of any work or provision of goods.

INSURANCE REQUIREMENTS

YOUR ATTENTION IS DIRECTED TO THE INSURANCE REQUIREMENTS BELOW, AND YOU MAY NEED TO CONFER WITH YOUR INSURANCE AGENTS, BROKERS, OR CARRIERS TO DETERMINE IN ADVANCE OF SUBMISSION OF A RESPONSE THE AVAILABILITY OF THE INSURANCE COVERAGES AND ENDORSEMENTS REQUIRED HEREIN. IF YOU FAIL TO COMPLY WITH THE INSURANCE REQUIREMENTS BELOW, YOU MAY BE DISQUALIFIED FROM AWARD OF THE CONTRACT.

Required Insurance Coverage

BIDDER/CONTRACTOR shall procure and maintain for the duration of this contract the following or equivalent insurance policies at no less than the limits shown below and cause its subcontractors to maintain similar insurance with limits acceptable to LFUCG in order to protect LFUCG against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by CONTRACTOR. The cost of such insurance shall be included in any bid:

<u>Coverage</u>	<u>Limits</u>
General Liability (Insurance Services Office Form CG 00 01)	\$1 million per occurrence, \$2 million aggregate or \$2 million combined single limit
Auto Liability	\$1 million per occurrence
Worker's Compensation	Statutory
Employer's Liability	\$100,000
Excess Liability	\$1 million per occurrence

The policies above shall contain the following conditions:

- a. All Certificates of Insurance forms used by the insurance carrier shall be properly filed and approved by the Department of Insurance for the Commonwealth of Kentucky (DOI). LFUCG shall be named as an additional insured in the General Liability Policy and Commercial Automobile Liability Policy using the Kentucky DOI approved forms.
- b. The General Liability Policy shall be primary to any insurance or self-insurance retained by LFUCG.
- c. The General Liability Policy shall include Premises and Operations coverage unless it is deemed not to apply by LFUCG.
- d. The General Liability Policy shall include Employment Practices Liability coverage or an endorsement in a minimum amount of \$1 million unless it is deemed not to apply by LFUCG.
- e. The Policy shall include Umbrella/Excess Liability coverage in the amount of \$1 million per occurrence, \$1 million aggregate, unless it is deemed not to apply by LFUCG.
- f. LFUCG shall be provided at least 30 days advance written notice via certified mail, return receipt requested, in the event any of the required policies are canceled or non-renewed.
- g. Said coverage shall be written by insurers acceptable to LFUCG and shall be in a form acceptable to LFUCG. Insurance placed with insurers with a rating classification of no less than Excellent (A or A-) and a financial size category of no less than VIII, as defined by the most current Best's Key Rating Guide shall be deemed automatically acceptable.

Renewals

After insurance has been approved by LFUCG, evidence of renewal of an expiring policy must be submitted to LFUCG, and may be submitted on a manually signed renewal endorsement form. If the policy or carrier has changed, however, new evidence of coverage must be submitted in accordance with these Insurance Requirements.

Deductibles and Self-Insured Programs

IF YOU INTEND TO SUBMIT A SELF-INSURANCE PLAN IT MUST BE FORWARDED TO LEXINGTON-FAYETTE URBAN COUNTY GOVERNMENT, DIVISION OF RISK MANAGEMENT, 200 EAST MAIN STREET, LEXINGTON, KENTUCKY 40507 NO LATER THAN A MINIMUM OF FIVE (5) WORKING DAYS PRIOR TO THE RESPONSE DATE. Self-insurance programs, deductibles, and self-insured retentions in insurance policies are subject to separate approval by Lexington-Fayette Urban County Government's Division of Risk Management, upon review of evidence of BIDDER/CONTRACTOR's financial capacity to respond to claims. Any such programs or retentions must provide LFUCG with at least the same protection from liability and defense of suits as would be afforded by first-dollar insurance coverage

Safety and Loss Control

CONTRACTOR shall comply with all applicable federal, state, and local safety standards related to the performance of its works or services under this Agreement and take necessary action to protect the life, health and safety and property of all of its personnel on the job site, the public, and LFUCG.

Verification of Coverage

BIDDER/CONTRACTOR agrees to furnish LFUCG with all applicable Certificates of Insurance signed by a person authorized by the insurer to bind coverage on its behalf prior to final award, and if requested, shall provide LFUCG copies of all insurance policies, including all endorsements.

Right to Review, Audit and Inspect

CONTRACTOR understands and agrees that LFUCG may review, audit and inspect any and all of its records and operations to insure compliance with these Insurance Requirements.

DEFAULT

BIDDER/CONTRACTOR understands and agrees that the failure to comply with any of these insurance, safety, or loss control provisions shall constitute default and that LFUCG may elect at its option any single remedy or penalty or any combination of remedies and penalties, as available, including but not limited to purchasing insurance and charging BIDDER/CONTRACTOR for any such insurance premiums purchased, or suspending or terminating the work.

Lexington Fayette Urban County Government (LFUCG)

Bid Specifications for Activated Carbon Media Replacement in Odor Control Units

The LFUCG is issuing this Bid for the sole purpose of obtaining responsive proposals and price quotes from responsible Bidders (Vendors) for removal, disposal, and replacement of spent activated carbon media in existing odor control carbon adsorber vessels. The new activated carbon must meet the performance and quality standards outlined in this specification. The primary goal is to allow for quick media replacement as needed to ensure continued effective operation of the odor control units to mitigate odors and improve the air quality around these systems.

The intent of this Bid is to prequalify viable Vendor(s) for activated carbon media replacement so that changeouts can be completed in a timely manner. Bidders must be regularly engaged in the supply and replacement of carbon media in odor control systems. Bidders must be able to demonstrate two (2) years minimum experience of providing carbon media replacement **successfully** to at least three (3) other municipal clients. *LFUCG will only consider proposals from Bidders who demonstrate similar experience with satisfactory reference verifications.*

LFUCG requires that selected bidder(s) shall provide all labor, materials, equipment, and supervision necessary for the complete and satisfactory performance for all activities associated with the replacement of the activated carbon media in accordance with this agreement. Services shall be provided in a safe, secure, effective, and efficient manner, compliant with all applicable laws, rules, and regulations during transportation, disposal, and installation. All costs for services provided shall be paid in accordance with the payment provisions as described in contract documents.

There is no guarantee of work associated with this Bid. LFUCG wishes to establish a price contract with all viable vendors.

SCOPE OF WORK

A. MEDIA REQUIREMENTS

Provide new activated carbon media that shall meet or exceed the following specifications (media provided under this contract is subject to Owner approval):

1. Media #1- Activated Carbon Media	
Minimum Hydrogen Sulfide (H ₂ S) Breakthrough Capacity	0.03 g of H ₂ S removed per cc of carbon
Particle type	Pelletized
Particle size	4.0 mm diameter
Density	30 lb/ft ³
Maximum Moisture Content	5% by weight
Crush Test	95 lb
Maximum Abrasion Loss	3%
Maximum Ash Content	5% by weight
Ignition Temperature	>400 °C
CTC Value	70%

Iodine Number	1,100 mg/g
Minimum Butane Activity	27%
Activated carbon media shall be a high-quality bituminous coal or coconut shell pellet. Media types that require water regeneration are not acceptable. No chemical impregnation of the of the activated carbon and no wood-based materials are permitted.	

2. Media #2- High H₂S Capacity Carbon Media	
Minimum Hydrogen Sulfide (H ₂ S) Breakthrough Capacity	0.30 g of H ₂ S removed per cc of carbon
Particle type	Pelletized
Particle size	4.0 mm diameter
Density	30 lb/ft ³
Maximum Moisture Content	5% by weight
Crush Test	97 lb
Maximum Abrasion Loss	3%
Maximum Ash Content	5% by weight
Ignition Temperature	>400 °C
CTC Value	70%
Iodine Number	1,100 mg/g
Minimum Butane Activity	27%
Activated carbon media shall be a high-quality bituminous coal or coconut shell pellet. Media types that require water regeneration are not acceptable. No chemical impregnation of the of the activated carbon and no wood-based materials are permitted.	

3. Media #3- 8% Potassium Permanganate Impregnated Media	
Minimum Hydrogen Sulfide (H ₂ S) Breakthrough Capacity	0.11 g of H ₂ S removed per cc of carbon
Particle type	Spherical
Particle size	4.0 mm diameter
Density	50 lb/ft ³
Maximum Moisture Content	20% by weight
Crush Test	40-60 lb
Maximum Abrasion Loss	3%
Ignition Temperature	Not ignitable
Potassium Permanganate Content	8% minimum

Blended Medias (blending must be uniform and completed prior to shipping to site)

4. Media #4 (Blend): 50% Media #1/50% Media #2

5. Media #5 (Blend): 50% Media #1/50% Media #3

6. Media #6 (Blend): 50% Media #2/50% Media #3

7. Media #7 (Blend): 50% Media #3/25% Media #1/25% Media #2

B. DELIVERY REQUIREMENTS

- Delivery must be completed within the agreed-upon timeline specified in the contract.
- Contractor shall ensure media is packaged to prevent damage during transit.
- All shipments must include Bill of Lading(s) and Safety Data Sheet(s).

C. FIELD SERVICE REQUIREMENTS

Contractor shall provide all labor, materials, equipment and supervision necessary for the complete and satisfactory performance of the following tasks:

- Removal of spent activated carbon:
 - Contractor shall safely remove and dispose of the spent activated carbon from the specified odor control units. This includes proper handling, transportation, and disposal in accordance with all applicable federal, state and local regulations.
 - Inspection of inside of empty vessel which shall include pictures and identification of any damage that requires immediate or long-term attention.
 - Replacement of media netting.
- Installation of new activated carbon media:
 - Contractor shall install new activated carbon media of the specified type and quantity uniformly into the odor control unit(s) according to the manufacturer's instructions to ensure optimal performance. The carbon must be loaded to the specified bed depth and packed to the required density.
 - Cleanup of area, including any media on the ground that may have spilt during change out.
- Startup and Testing:
 - After the new carbon is installed, the Contractor shall perform a startup and testing procedure to verify the proper operation of the odor control unit(s). This may include, but is not limited to, pressure drop testing, and airflow verification.
- Performance Testing:
 - Conduct testing to verify the performance of the new carbon
 - Tests must include measuring and recording H₂S inlet and outlet readings to calculate H₂S removal efficiency and airflow pressure drops
- Safety Requirements:
 - All work must be performed in compliance with OSHA regulations
 - Personal Protective Equipment (PPE) must be provided for all workers

D. REPORTING REQUIREMENTS

Contractor shall provide a brief report within one week of media changeout. Report shall include the following:

- Company name and address
- Date(s) of media changeout
- Type and volume of media installed
- Pictures of the following:
 - Overall system prior to media changeout (2)
 - Media removal (2)
 - Media installation (2)
 - Vessel interior (4)
 - Overall system after media changeout (2)
- Performance Testing Results:
 - Calculated H₂S removal efficiency from Performance Testing
 - Airflow pressure drops
- Media cut sheets
- Bill of Lading(s)
- Safety Data Sheet(s)

BID SUBMITTAL REQUIREMENTS

The following items must be submitted in response to this Bid:

- **Company Information:** Name of the company, a brief narrative description, and contact information for the representative.
- **Media Descriptions:** Provide detailed information for each media.
- **Safety Documentation:** Provide Safety Data Sheets (SDS) for each media.
- **Experience:** Information from three (3) municipal wastewater clients demonstrating your company's two (2) year(s) minimum experience in supplying and replacing carbon media in odor control systems. Contact names and email addresses should be provided.
- **Pricing:** Provide pricing per cubic foot (ft³) for each media listed below. Price shall include costs for all items in scope described above. Use the pricing table below:

DESCRIPTION	Unit Price* (\$/ft ³)		
1. Media #1- Activated Carbon Media	\$46.28	\$62.28	\$98.96
2. Media #2- High H2S Capacity Carbon Media	\$70.56	\$84.56	\$146.72
3. Media #3- 8% Potassium Permanganate Impregnated Media	\$103.58	\$131.08	\$218.16
4. Media #4 (Blend): 50% Media #1/50% Media #2	\$83.00	\$98.00	\$172.00
5. Media #5 (Blend): 50% Media #1/50% Media #3	\$92.23	\$114.23	\$193.26
6. Media #6 (Blend): 50% Media #2/50% Media #3	\$115.07	\$136.57	\$238.74
7. Media #7 (Blend): 50% Media #3/25% Media #1/25% Media #2	\$103.65	\$125.15	\$215.90

*Price shall include all items in the scope above. Media must be replaced within 30 days of issuance of Purchase Order.

- Questions must be submitted in ionwave

column 1 = price per cf shipped in small quantities w/o service

column 2 = price per cf if shipped in truck-load quantity

column 3 = price per cf w/service estimate. Cost assumes material removed from towers is not hazardous (can be landfilled) and bed is fluid



ADDENDUM No. 1

Bid Number: **#29-2025**

Date: March 7, 2025

Subject: Activated Carbon Replacement in Odor Control
Units

Address inquiries to:
Q&A Module on Ion Wave

Brian Marcum
brianm@lexingtonky.gov
(859) 258-3325

TO ALL PROSPECTIVE SUBMITTERS:

Please be advised of the following modifications to the above referenced Bid:

Please see the attached questions and answers.

Todd Slatin, Director
Division of Central Purchasing

All other terms and conditions of the Bid and specifications are unchanged.
This letter should be signed, attached to and become a part of your Bid.

COMPANY NAME: ECS Environmental Solutions

ADDRESS: 200 Taylor Valley Road Belton TN 37613

SIGNATURE OF BIDDER: Carrie Gooz





LEXINGTON

Division of Water Quality
125 Lisle Industrial Ave., Suite 180
Lexington, KY 40511

Bid # 29-2025 ACTIVATED CARBON REPLACEMENT IN OC UNITS SUPPLIER SUBMITTED QUESTIONS

Question	SUPPLIER NAME	QUESTION	RESPONSE
1	CarbUSA LLC	Could you please advise quantity for each media?	Media quantities will vary based on the size of the system. No quantities will be provided in this RFP.
2	CarbUSA LLC	In the price do we need to include removal replacement etc as well or only the media price?	<p>Refer to Bid Package for the following:</p> <p>“• Pricing: Provide pricing per cubic foot (ft3) for each media listed below. Price shall include costs for all items in scope described above. Use the pricing table below:”</p> <p>The items in “...scope described above.” are as follows:</p> <ul style="list-style-type: none">• Removal of spent carbon<ul style="list-style-type: none">○ All indicated tasks• Installation of new activated carbon<ul style="list-style-type: none">○ All indicated tasks• Startup and testing<ul style="list-style-type: none">○ All indicated tasks• Performance testing<ul style="list-style-type: none">○ All indicated tasks• Safety Requirements<ul style="list-style-type: none">○ All indicated tasks <p>Therefore, the “price” must be all inclusive</p>
3	CarbUSA LLC	is it ok to only to bid in for Media #1, #2 and #3, without blended media?	Yes, it is ok to only bid for Media #1, #2, and #3

4	Sullivan Environmental Technologies	Can you provide pictures or details on the systems? Original vendor with make and model number will be helpful.	There are a number of different systems at the wastewater treatment plants and pump stations. Providing information on each system is beyond the scope of this RFP.
5	Sullivan Environmental Technologies	Media 1 appears to be specified around a virgin carbon (low H2S capacity, high activity). The particle size specified is 4mm “diameter” which implies a round shape. The industry standard for this type of carbon is a 4x8 granular product. Please confirm 4x8 granular is acceptable for media no 1.	Media 1 shall be extruded, 4 mm diameter cylinder, not granular.
6	Sullivan Environmental Technologies	“Blended Media’s are not an efficient means of odor control. Rather, when polishing applications are necessary or when treating complex airstreams with high organic sulfide loading, it is far better to “layer” these products. Carbon first, oxidizing media second. The oxidizing media will remove all contaminates whereas carbon has a finite capacity for some organic sulfides. Blending media results in premature break-through of the complex organics while some carbon in the bed may still be removing other contaminates. Please clarify if the layering required or if blending these products will be allowed.	Agree that layering different media may be more efficient than blending different media. LFUCG shall choose whether to layer or blend based on the vessel configuration. If LFUCG chooses to layer at a specific location, then blending would not be allowed. There may be existing vessels that are not configured for layering (such as a radial flow without a divider). In that case, a blended media would be the only option if multiple medias are needed.
7	Sullivan Environmental Technologies	The specification states “airflow verification” is required. If airflow is not per the original design, will the service company be responsible for balancing? If so, does this apply to a gross balance at the odor control unit or does it extend to intake points in and around the air collection system?	Airflow verification includes the balancing of the entire system (gross balance and up to six intake points).
8	Sullivan Environmental Technologies	Under “startup and testing” the words “this MAY include” are used. Are they included or are they not included?	Yes, they are included.

9	Sullivan Environmental Technologies	Performance testing: can you provide more details about what is required? Example; we would recommend an 8-hour logger on each unit recording H2S in and out using acru logs from detection industries. Additionally, if you are specifying an oxidizing media then there is concern for organic sulfides. We would recommend the vendor perform an “odor panel” on each system, taking one inlet and one outlet sample. What are the criteria for a “pass”. If we may recommend criteria it would be 99% removal or a maximum outlet of 0.05 ppm H2S whichever is greater to pass 90% total odor removal or a maximum outlet of 500 D/T whichever is greater to pass.	Performance test shall be H2S only as described below: <ul style="list-style-type: none"> - Duration: 4-hour test - Inlet Monitor: Odalog or Acrulog (0-1,000 ppm) - Outlet Monitor: Acrulog (0-2 ppm, low range) - Requirement: 99% removal or 0.05 ppm (whichever is less stringent)
10	Sullivan Environmental Technologies	You have asked for inspection of the vessels. Assuming they are FRP vessels, is any qualification required? If so what?	No qualifications required.
11	Sullivan Environmental Technologies	The contract asks for price per cubic ft and a service price but gives no detail on 1) how many units 2) what type of units 3) how many total cubic feet of each media are required. These are necessary to provide an accurate price.	There are multiple systems that include deep bed and radial flow configurations. The smallest system is approximately 1,500 cfm and the largest system is approximately 73,500 cfm. The same unit price will be used no matter the size of the system



LEXINGTON

MAYOR LINDA GORTON

TODD SLATIN

DIRECTOR

CENTRAL PURCHASING

ADDENDUM No. 2

Bid Number: **#29-2025**
March 11, 2025

Date:

Subject: Activated Carbon Replacement in Odor
Control Address inquiries to:

Units
on Ion Wave

Q&A Module

Marcum

Brian

brianm@lexingtonky.gov

(859) 258-3325

TO ALL PROSPECTIVE SUBMITTERS:

Please be advised of the following modifications to the above referenced Bid:

Will LFUCG accept a 4x10 mesh size granular activated carbon product as an equivalent to the 4mm pellet carbon

spec?

No

Todd Slatin

Todd
Slatin, Director
Division of

Central Purchasing

All other terms and conditions of the Bid and specifications are unchanged.

This letter should be signed, attached to and become a part of your Bid.

COMPANY NAME:

ECS Environmental Solutions

ADDRESS:

2201 Taylors Valley Road, Bolton, TX
7603

SIGNATURE OF BIDDER:

Chris Green



200 East Main St., Lexington, KY 40507 / 859.258.3320 Phone / 859.258.3322 Fax / lexingtonky.gov

ENHANCED VIRGIN COCONUT SHELL ACTIVATED CARBON

Technical Data Sheet

DESCRIPTION:

VC-PLUS is an activated carbon media produced to treat foul air from wastewater and sewage treatment processes. The carbon is a pelletized media derived from coconut shell.

APPLICATIONS:

Odor Control and VOC removal from air; typically in sewage and wastewater treatment plants.

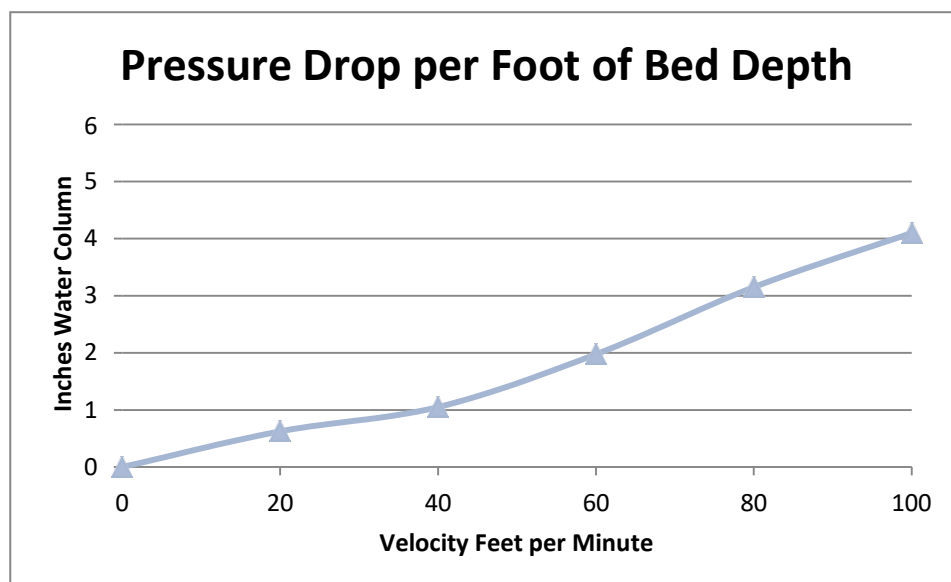
TYPICAL PROPERTIES:

Minimum H ₂ S Breakthrough Capacity:	0.04 g H ₂ S removed per cc of carbon
Maximum Moisture:	4% by weight
Apparent Density:	0.46 – 0.52 g/cc
Minimum Carbon Tetrachloride Activity:	60%
Minimum Hardness Number:	99
Maximum Ash Content:	7% by weight
Surface Area to Volume Ratio:	1150 m ² /g



FEATURES:

- Low cost solution for applications with low H₂S and VOC concentrations
- Free of chemical impregnates, removes risk of bed fires
- Granules are resistant to wear from friction, slowing pressure drop increase over time





Material Safety Data Sheet

U.S. Department of Labor
Occupational Safety and Health Administration
This form is consistent with ANSI standard for
preparation of MSDS's in accordance with
OSHA's Hazard Communication Standard,
29 CFR 1910.1200.

Product Type: ECS VC-PLUS	
Product Code: 2359	Profile No: 2
Effective Date: December 30, 2011	Supersedes: January 17, 2011


SECTION I - PRODUCT AND COMPANY INFORMATION

Product Name	Activated Carbon (Coconut Based)	
Product Use	Used according to manufacturer's recommendation	
Company Identification (USA)	ECS Environmental Solutions P.O. Box 127 Belton, TX 76513	
Telephone Number(s)	Information	254-933-2270
	Emergency	254-933-2212
Date Prepared	Signature of Preparer (optional)	
January 10, 2012		

SECTION II – HAZARD(S) IDENTIFICATION

OSHA Regulatory Status:		Not regulated	
HMIS Ratings:	Health	0	4 = Extreme/Severe 3 = High/Serious 2 = Moderate 1 = Slight 0 = Minimum W = Water Reactive OX = Oxidizer
(NFPA)	Flammability	1	
	Reactivity	0	
	Special		
Protective Equipment :		Safety glasses with side shields or goggles, gloves, long sleeve shirt or lab coat, long pants recommended.	
Health Effects:		See Section IV.	
Environmental Effects:		See Section XII.	

GHS Classification:

Hazard Symbol	Hazard / Category	Warning
	Eye Irritation Category 2B Respiratory Irritation Category 3	Contact may cause eye irritation. Dust may be slightly irritating to eyes and respiratory tract. Wet activated carbon removes oxygen from air causing a severe hazard to workers in enclosed or confined space.
Precautionary Statements		
Prevention:	Avoid generation of dust during handling. Avoid breathing dust. Wash thoroughly after handling. Use in a well-ventilated area.	
Response:	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes.	
Storage:	Store in a well-ventilated place. Keep container tightly closed.	
Container Labeling:	While ECS has added GHS classification information to MSDS documents, changes to container labeling has not been implemented. Changes to container labels will be made in accordance to the requirements to be defined by OSHA's revision to the Hazard Communication Standard once final adoption of rule is approved and released.	

SECTION III – COMPOSITION /INFORMATION ON INGREDIENTS

Chemical Identity (% by Wt)	Common Name (Ingredient / Component)	CAS No	Impurities
100	Activated Carbon (Coconut based)	7440-44-0	None

SECTION IV – FIRST-AID MEASURES

Route of Exposure	
Inhalation	Dust may cause mild irritation to the upper respiratory tract.
Skin	Dust may cause mild irritation, possibly reddening.
Eyes	Dust may cause mild irritation, possibly reddening.
Ingestion	Dust may cause mild irritation to digestive track resulting in nausea or diarrhea.
Signs/Symptoms of Exposure	Dust may cause irritation and redness of eyes, irritation of skin and respiratory system. The effects of long-term, low-level exposures to this product have not been determined.

Emergency and First Aid Procedures	<p>For eye contact: Immediately flush with copious amounts of water for at least 15 minutes, lifting both the upper and lower lids occasionally; seek medical attention.</p> <p>For skin contact: Wash with soap and water; seek medical attention.</p> <p>For inhalation: Remove to fresh air and rest as needed; seek medical attention for any breathing difficulty.</p> <p>For ingestion: Drink plenty of water; seek medical attention.</p>
Medical Conditions Generally Aggravated by Exposure	People with pre-existing skin conditions or eye problems or impaired respiratory function may be more susceptible to the potential effects of the dust.

SECTION V – FIRE FIGHTING MEASURES

Suitable Extinguishing Media	Use an extinguishing media suitable for the surrounding fire.
Unsuitable Extinguishing Media	None known
Specific Hazards	<p>As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source. Activated carbon is difficult to ignite and tends to burn slowly (smolder) without producing smoke or flame.</p> <p>Carbon monoxide and carbon dioxide gas may be emitted upon combustion of material.</p> <p>Contact with strong oxidizers such as ozone or liquid oxygen may cause rapid combustion.</p>
Protective Equipment and Procedures	Wear NIOSH approved self-contained breathing apparatus suitable for the surrounding fire.

SECTION VI – ACCIDENTAL RELEASE MEASURES

Personal Precautions	Wear protective equipment, keep unnecessary personnel away, and ventilate area of spill.
Environmental Precautions	The material is not soluble, but can cause a particulate emission if discharged to waterways; therefore, dike all entrances to sewers and drains to avoid introducing the material into the waterways.
Containment & Clean-up	<p>Dike all entrances to sewers and drains. Vacuum or shovel spilled material and place in closed container for disposal.</p> <p>Remove product to appropriate storage area until it can be properly disposed of in accordance with local, state and federal regulations. Avoid dust formation.</p> <p>See section XIII.</p>

Other Information	NA
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SECTION VII – HANDLING AND STORAGE

Precautions for Safe Handling	Avoid prolonged contact with eyes and skin. Keep away from ignition sources. Use in well ventilated areas. Protect containers from physical damage. Wash hands after handling.
Conditions for Safe Storage	Store in cool, dry, ventilated area and in closed containers. Keep away from oxidizers, heat or flames. Store away from ignition sources.

SECTION VIII – EXPOSURE CONTROLS/PERSONAL PROTECTION

Component	OSHA PEL	ACGIH TLV	Other Limits
Activated Carbon	Data not available	Data not available	
Exposure Guidelines	Wet activated carbon removes oxygen from air posing a hazard to workers in enclosed or confined space. Before entering such an area, sample the air to assure sufficient oxygen supply. Use work procedures for low oxygen levels, observing all local, state and federal regulations.		
Engineering Controls	<p>Exhaust ventilation should be designed to prevent accumulation and recirculation in the workplace and safely remove carbon black from the air.</p> <p>Note: Wet activated carbon removes oxygen from air causing a severe hazard to workers in enclosed or confined space.</p> <p>If risk of overexposure exists, wear an approved respirator. Provide adequate ventilation in warehouse or closed storage area.</p>		
Personal Protective Equipment	Use of NIOSH approved particulate filter is recommended if dust is generated in handling. The usual precautionary measures for handling chemicals should be followed, i.e. gloves, safety glasses w/side shields or goggles, long sleeve shirt or lab coat, dust respirator if dusty and/or other protective clothing/equipment as determined appropriate.		
General Hygiene	The usual precautionary measures for handling chemicals should be followed: i.e. Keep away from food and beverage; remove contaminated clothing immediately; wash hands before breaks or eating; avoid contact with eyes and skin.		

SECTION IX – PHYSICAL AND CHEMICAL PROPERTIES

Physical State (Appearance)	Black granular or powder material		
Color	Black	Molecular Weight	NA
Odor	None	Odor Threshold	None

pH Value	NA	Vapor Pressure	0
Melting Point	NA	Vapor Density	Solid
Freezing Point	NA	Relative Density	0.4 to 0.7
Initial Boiling Point	NA	Solubility	Not Soluble
Flashpoint	NA	Partition Coefficient	NA
Evaporation Rate	NA	Auto Ignition Temp.	>220 ⁰ C
Flammability	>220 ⁰ C	Decomp. Temp.	NA
UEL	NA	Viscosity	NA
LEL	NA		

SECTION X – STABILITY AND REACTIVITY

CHEMICAL STABILITY	UNSTABLE		CONDITIONS TO AVOID: None
	STABLE	XX	
POSSIBILITY OF HAZARDOUS REACTION	MAY OCCUR		CONDITIONS TO AVOID: None
	WILL NOT OCCUR	XX	
Caution: High concentrations of organics in air will cause temperature rise due to heat of adsorption. At very high concentration levels this may result in a thermal excursion, referred to as a bed fire. High concentrations of Ketones and Aldehydes may cause a bed temperature rise due to adsorption and oxidation.			
Materials to Avoid			Alkali metals and strong oxidizers such as ozone, oxygen, permanganate, chlorine.
Hazardous Decomposition Products			Carbon monoxide and carbon dioxide gas may be generated during combustion of this material.

SECTION XI – TOXICOLOGICAL INFORMATION

Acute Effects		
Toxicity Studies	Oral LD ₅₀	Not determined on the finished product.
	Dermal LD ₅₀	Not determined on the finished product.
Inhalation	See section IV.	
Ingestion	See section IV.	
Eye Irritation	See section IV.	
Skin Irritation	See section IV.	
Sensitization	Not determined on the finished product.	
Target Organ (s) or System		Eyes, skin and upper respiratory system
Signs and Symptoms of		Irritation and redness of eyes, irritation of skin and respiratory system may result from exposure to carbon dust.

Exposure	See Sections III and IV.
Chronic Effects	
Carcinogenicity	Not determined on the finished product.
Mutagenicity	Not determined on the finished product.
Reproductive Effects	Not determined on the finished product.
Developmental Factors	Not determined on the finished product.

SECTION XII – ECOLOGICAL INFORMATION

Ecotoxicity	Not determined on the finished product.
Persistence/Degradability	Not determined on the finished product.
Bioaccumulation/Accumulation	Not determined on the finished product.
Mobility in Environmental Media	Not determined on the finished product.
Other Adverse Effects	Not determined on the finished product.

SECTION XIII – DISPOSAL CONSIDERATIONS

Vacuum or shovel material into a closed container. Storage and disposal should be in accordance with applicable local, state and federal laws and regulations. Local regulations may be more stringent than state or federal requirements. Activated Carbon is an adsorbent media; hazard classification is generally determined by the adsorbate that the carbon has picked up. Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal.

SECTION XIV – TRANSPORT INFORMATION

This information as presented below only applies to the material as shipped. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Land	DOT Regulations	UN/NA Identification Number:	OVC 4X8None on finished product
		UN- Proper Shipping Name:	Not Regulated
		Transport Hazard Class:	None on finished product; see Note 1 below
		Packing Group:	None on finished product
		Marine Pollutant:	None on finished product
	Canadian WHMIS	Hazard Class:	None on finished product
Water	IMO / IMDG	UN/NA Identification Number:	OVC 4X8None on finished product

		UN- Proper Shipping Name:	Not Regulated
		Transport Hazard Class:	None on finished product
		Packing Group:	None on finished product
		Marine Pollutant:	None on finished product
Air	ICAO / IATA	UN/NA Identification Number:	None on finished product
		UN- Proper Shipping Name:	Not Regulated
		Transport Hazard Class:	None on finished product
		Packing Group:	None on finished product
		Marine Pollutant:	None on finished product
		Information reported for product/size: 0.5 Kg	
Note 1: Under the UN classification for activated carbon, all activated carbons have been identified as a class 4.2 product. However, This product has been tested according to the <u>United Nations Transport of Dangerous Goods</u> test protocol for a “self-heating substance” (<u>United Nations Transportation of Dangerous Goods, Manual of Tests and Criteria, Part III, Section 33.3.1.6 - Test N.4 - Test Method for Self Heating Substances</u>) and it has been specifically determined that this product does not meet the definition of a self heating substance (class 4.2) or any other hazard class, and therefore should not be listed as a hazardous material. This information is applicable only for the Activated Carbon Product identified in this document.			

SECTION XV – REGULATORY INFORMATION

SARA Title III 302	Product is not subject to SARA Title III, section 302 regulation.	
SARA Title III 313	Product is not subject to SARA Title III, section 313 regulation.	
TSCA	Product is listed.	
California Proposition 65	Product is not listed.	
Canadian Classification	WHMIS	Product is listed.
	DSL #	Product is listed.
EEC Council Directives relating to the classification, packaging, and labeling of dangerous substances and preparations.		
Risk and Safety Phrases	R36: Irritating to the eyes. R37: Irritating to the respiratory system. R38: Irritating to the skin.	
Carbon, activated (CAS: 7440-44-0) is found on the following regulatory lists:	Canada - British Columbia Occupational Exposure Limits Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances Canada Domestic Substances List (DSL) International Air Transport Association (IATA) Dangerous Goods Regulations OECD Representative List of High Production Volume (HPV) Chemicals US - Hawaii Air Contaminant Limits	

	US - Idaho - Toxic and Hazardous Substances - Mineral Dust US - Minnesota Hazardous Substance List US - Minnesota Permissible Exposure Limits (PELs) US - Rhode Island Hazardous Substance List US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants US - Washington Permissible exposure limits of air contaminants US DOE Temporary Emergency Exposure Limits (TEELs) US EPA High Production Volume Program Chemical List US FDA CFSAN Color Additive Status List 4 US FDA CFSAN Color Additive Status List 6
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SECTION XVI – OTHER INFORMATION

Intended Use	The material is generally used for treatment of gases and liquids.
The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. It is the user's responsibility to determine the suitability and completeness of this information for their particular use.	
While the information and recommendations set forth herein are believed to be accurate as of the date hereof, ECS makes no warranty with respect to same and disclaims all liability for reliance there on.	

Legend:

ACGIH	- American Conference of Governmental Industrial Hygienists
ANSI	- American National Standards Institute
CAS #	- Chemical Abstracts Service Registry Number
CFR	- Code of Federal Regulations
CFSAN	- Center for Food Safety and Applied Nutrition
DOE	- Department of Energy
DOT	- Department of Transportation
DSL	- Domestic Substances List
EEC	- European Economic Community
EPA	- Environmental Protection Agency
FDA	- Food and Drug Administration
GHS	- Globally Harmonized System (of Classification and Labeling of Chemicals)
HMIS	- Hazardous Material Information System
IATA	- International Air Transportation Association
ICAO	- International Civil Aviation Organization
IMO	- International Maritime Organization
IMDG	- International Maritime Dangerous Goods
LD ₅₀	- Lethal Dose expected to kill 50% of a group of test animals
LEL	- Lower Explosive Limit
NA	- Not Applicable
NFPA	- National Fire Protection Association
NIOSH	- National Institute for Occupational Safety and Health
OECD	- Organization for Economic Cooperation and Development
OSHA	- Occupational Safety and Health Association
PEL	- Permissible Exposure Limit
SARA	- Superfund Amendments and Reauthorization Act
TLV	- Threshold Limit Value

Material Safety Data Sheet

Profile No 2

TSCA - Toxic Substances Control Act

UEL - Upper Explosive Limit

WHMIS - Workplace Hazardous Material Information System

* * * END OF MATERIAL SAFETY DATA SHEET * * *

SULFADSORB - HC

0.30 HIGH CAPACITY ACTIVATED CARBON

Technical Data Sheet

DESCRIPTION:

ECS Sulfadsorb-HC carbon is a coconut based activated carbon that offers the highest hydrogen sulfide adsorption capacity available. The carbon is a high quality extruded 4 mm pellet and provides a 0.30 g/cc capacity (min) for hydrogen sulfide removal.

APPLICATIONS:

Odor Control and VOC removal from air; typically in sewage and wastewater treatment plants.

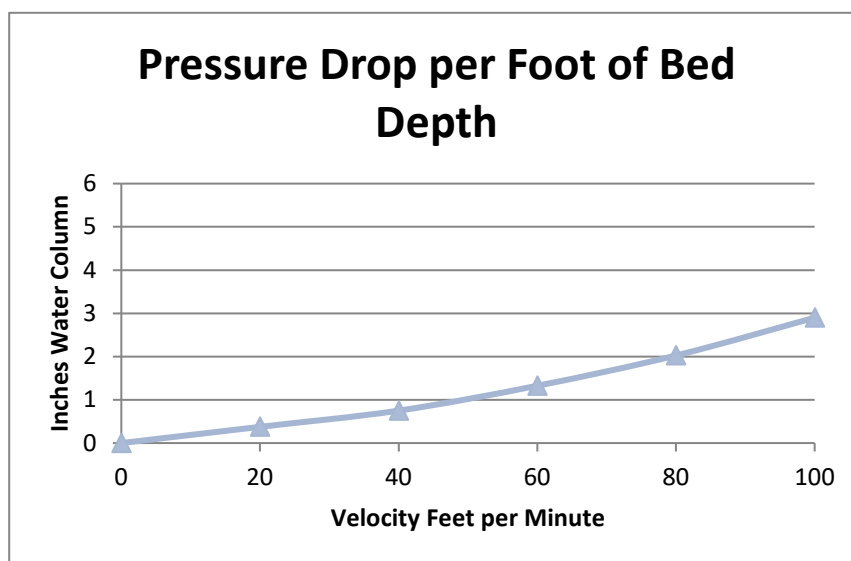
TYPICAL PROPERTIES:

Minimum H ₂ S Breakthrough Capacity:	0.30 g H ₂ S removed per cc of carbon
Maximum Moisture:	5% by weight
Apparent Density:	0.45 g/cc
Minimum Carbon Tetrachloride Activity:	60%
Minimum Hardness Number:	95
Maximum Ash Content:	5% by weight
Surface Area to Volume Ratio:	1250 m ² /g



FEATURES:

- Higher H₂S and VOC adsorption capacity compared to traditional activated carbon
- Free of chemical impregnates, removes risk of bed fires
- Prolonged media bed life
- Safe for landfill disposal when used for typical H₂S treatment applications



Material Safety Data Sheet

SECTION 1 – CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name: 0.30 High Capacity Activated Carbon

Chemical Name: Activated Carbon

Medical/Handling Emergency Phone Number: Chem-tel (800) 255-3924 (24 hours)

Transportation Emergency Phone Number: Chem-tel (800) 255-3924 (24 hours)

Revision Date/Revision Number: November 15, 2020 / 01

SECTION 2 – COMPOSITION INFORMATION

Identity	Percent by Weight	CAS#
Activated Carbon	100	7440-44-0

SECTION 3 – HAZARDS IDENTIFICATION

Emergency Overview:

Odorless, black granules or powder. **Activated carbon (especially when wet) can deplete oxygen from air in enclosed spaces, and dangerously low levels of oxygen may result.** When workers enter a vessel containing activated carbon, follow procedures for potentially low oxygen. Workers should also take appropriate precautions when dealing with spent (used) activated carbons which may exhibit properties of adsorbed materials.

Potential Health Effects:

Medical conditions aggravated by exposure: None documented

Routes of Exposure:

Eyes: Not corrosive, but like most particulate materials may cause mild physical irritation.

Skin: Not corrosive and not a primary skin irritant. Mild irritation is possible due to abrasive action of dust.

Ingestion: No known deleterious effects.

Inhalation: Possible mild irritation of respiratory tract due to drying and abrasive actions of dust.

Chronic Effects: IARC – Not listed
NTP – Not listed
OSHA – Not regulated

For additional information, see Section 16

SECTION 4 – FIRST AID MEASURES

Skin: Wash material off the skin with soap and water. Seek medical attention if irritation occurs.

Eyes: Flush with copious amounts of water. Seek medical attention if irritation occurs.

Ingestion: Give one or two glasses of water to drink. Seek medical attention if gastrointestinal symptoms develop.

Inhalation: Remove to fresh air. Seek medical attention if cough or respiratory symptoms develop.

SECTION 5 – FIRE FIGHTING MEASURES

Flashpoint: Not Applicable.

Non-flammable: 16CFR1500.44

Not Self Heating: UN Manual of Tests and Criteria, Test N.3.

Flammability Limits in Air: LFL and UFL Not Applicable

General Hazard:

Activated carbon is difficult to ignite and tends to burn slowly (smolder) without producing smoke or flame. Toxic gases will form upon combustion.

Fire Fighting Procedures:

If possible to do so safely, move smoldering activated carbon to a non-hazardous area, preferably out of doors. Extinguish fire using water fog, fine water spray, carbon dioxide or foam. Avoid stirring up dust clouds.

Fire Fighting Equipment:

Fire fighting personnel should wear full protective equipment, including self-contained breathing apparatus (SCBA) for all inside fires and large outdoor fires.

Hazardous Combustion Products:

Combustion products may include smoke and oxides of carbon (for example, carbon monoxide). Materials allowed to smolder for long periods in enclosed spaces, may produce amounts of carbon monoxide which reach the lower explosive limit (carbon monoxide LEL = 12.5% in air). Under certain conditions, any airborne dust may be an explosion hazard. Used activated carbon may produce additional combustion products.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

If a Spill or Leak Occurs:

Clean up spills in a manner that does not disperse dust into the air. Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure, and removal of material from eyes, skin, and clothing.

SECTION 6 – ACCIDENTAL RELEASE MEASURES (continued)

Disposal Method:

Spent granular activated carbon may be recyclable. Dispose of virgin (unused) carbon (waste or spillage) in a facility permitted for non-hazardous wastes. Spent (used) carbon should be disposed of in accordance with applicable laws.

Container Disposal:

Do not reuse empty bags. Dispose of in facility permitted for non-hazardous wastes.

SECTION 7 – HANDLING AND STORAGE

Storage Temperature: Ambient

Storage Pressure: Atmospheric

Handling: Follow good handling and housekeeping practices to minimize spills, generation of airborne dusts, and accumulation of dusts on exposed surfaces.

Use with adequate exhaust ventilation to draw dust away from workers' breathing zones.

Prevent or minimize exposures to dusts by using appropriate personal protection equipment.

Wash exposed skin areas thoroughly with soap and water after handling.

Storage: Avoid breaking bags or spilling media so as to avoid possibly creating residual dust.

Store in ambient atmospheric conditions. Product should be stored in a closed dry container.

Maintain good housekeeping procedures.

Store away from strong oxidizers such as ozone, liquid oxygen, chlorine, permanganate, etc.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Use local exhaust ventilation to control emissions near the source.

Eye Protection: Safety glasses with side shields are recommended for any type of handling. Where eye contact or dusty conditions may be likely, dust tight goggles are recommended. Have eye flushing equipment available.

SECTION 8 –PERSONAL PROTECTION/ EXPOSURE CONTROL (continued)

- Skin Protection:** Avoid skin contact with this product. Wear appropriate dust resistant clothing and gloves. Wash contaminated clothing and clean protective equipment before reuse. Wash skin thoroughly after handling.
- Respiratory Protection:** Keep dust exposure to a minimum with engineering and administrative controls. Use appropriate NOISH/MSHA approved particulate respirators if necessary. Observe respirator use limitations specified by NIOSH/MSHA or the manufacturer.

Airborne Exposure Guidelines:

Recommended Exposure Limits 8-hr TWA	Activated Carbons
Total Dust	2.1 mg/m ³ *
Respirable Fraction	0.7 mg/m ³ *

*OSHA and ACGIH have not established specific exposure limits for this material. These guidelines are based on a conservatively high concentration of silica quartz (12%). Actual airborne silica concentrations may be much lower. If so, the PEL or TLV would be higher. No ceiling or short term exposure limits have been set by OSHA or ACGIH.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point, C:	NA	Freezing Point, C:	NA
Bulk Density – Granular Grades	23 – 28 lbs/ft ³	% Volatiles:	NA
Vapor Pressure	NA	Solubility in Water:	Insoluble
Vapor Density	NA	Appearance and Odor:	Black granules
Evaporation Rate	NA		

NA – Not applicable

SECTION 10 – STABILITY AND REACTIVITY

- Stability:** This product is considered stable under the specified conditions of storage, shipment and use.
- Incompatibilities:** Contact with strong oxidizers such as ozone, liquid oxygen, chlorine, permanganate etc. may result in rapid combustion. Avoid contact with strong acids.
- Hazardous Decomposition Products:** Oxides of Carbon
- Hazardous Polymerization:** Does not occur

SECTION 11 – TOXICOLOGICAL INFORMATION

This material is non-toxic in its original state. Used activated carbon may exhibit characteristics of the adsorbed material.

SECTION 12 – ECOLOGICAL INFORMATION

This material, in its original state, is not harmful to the environment. Used activated carbon may exhibit characteristics of the adsorbed material.

SECTION 13 – DISPOSAL CONSIDERATIONS

Activated carbon, in its original state, is not a hazardous material or hazardous waste. Vacuum or shovel material into a closed container. Storage and disposal should be in accordance with applicable local, state and federal laws and regulations. Local regulations may be more stringent than state or federal requirements. Activated Carbon is an adsorbent media; hazard classification is generally determined by the adsorbate that the carbon has picked up. Consult with the US EPA Guidelines listed in 40 CFR Part 261.3 for the classifications of hazardous waste prior to disposal.

SECTION 14 – TRANSPORTATION INFORMATION

DOT (Department of Transportation)

Proper Shipping Name:	Activated carbon (Not DOT regulated)
Hazard Class:	Not applicable
UN/NA Number:	Not applicable
Packing Group:	Not applicable
Freight Classification:	STCC Code - #2899643 NMFC #040560

SECTION 15 – REGULATORY INFORMATION

Federal Regulations:

OSHA Hazard Communication Standard, 29CFR1910, 1200:	See "Particulates not otherwise regulated," in Table Z-1, of 29CFR1910. 100, "Limits For Air Contaminates".
CERCLA/SUPERFUND, 40CFR117, 302:	Notification of spills of this material is not required
SARA/SUPERFUND:	Section 302 – Extremely Hazardous Substances (40CFR355): This product is not listed as an extremely hazardous substance.
	Section 313 – List of Toxic Chemicals: This product is not listed.
Toxic Substances Control Act, 40CFR710:	Activated carbon is on the inventory list
Resource Conservation and Recovery Act:	Activated carbon in its original state, does not meet the criteria of hazardous waste

State Regulations:

California Occupational Safety and Health:	Silica is listed on the "Hazardous Substances List"
Massachusetts Substance List:	Quartz is listed as a hazardous substance
New Jersey Right-to-Know:	Silica is listed on the Hazardous Substance List
Pennsylvania Right-to-Know:	Quartz is listed on the Hazardous Substance List

SECTION 16 – OTHER INFORMATION

Activated carbon can be safely stored in any normal storage area, but away from sources of direct heat.

WARNING: Activated carbon (especially when wet) can deplete oxygen from the air, and dangerously low levels of oxygen may result. When workers enter a vessel containing activated carbon, procedures for potentially low oxygen areas should be followed.

Activated carbons are not listed as potential carcinogens by any agency. Activated carbons may contain crystalline silica, which has been listed as a potential carcinogen of the lungs by the International Agency for Research on Cancer (IARC) and the National Toxicology Program (NTP). Much of the silica is inextricably bound within the particles of activated carbon, and does not present a substantial health hazard. From a conservative position regarding all health and safety matters, it is recommended to require respiratory protection whenever there is evidence of airborne dust.

Disclaimer: The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the user thereof. It is the buyer's responsibility to ensure that its activities comply with federal, state, provincial and local laws.

CC-PP8

Spherical Potassium Permanganate Impregnated Media

Technical Data Sheet

DESCRIPTION:

CC-PP8 is a spherical, activated alumina-based media impregnated with 8% potassium permanganate (KMnO₄).

APPLICATIONS:

Odor Control and VOC removal from air; typically in sewage and wastewater treatment plants.

SPECIFICATIONS:

- * Particle diameter: 4 - 6 mm
- * Bulk Density: 50 lbs/ft³
- * Potassium permanganate content: 8% min
- * Hardness: 80% min

REMOVAL CAPACITY:

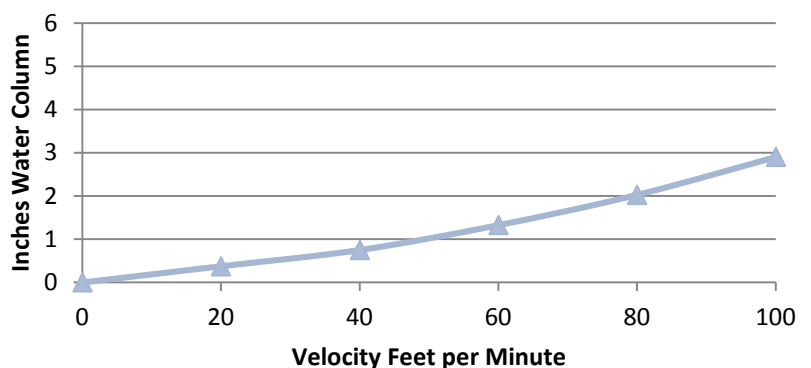
- * Hydrogen Sulfide 14%
- * Sulfur Dioxide 7%
- * Nitric Oxide 5%
- * Formaldehyde: 2.5%
- * Nitric Dioxide: 21% by weight



CC-PP8 is often used as an oxidizing agent to treat complex organics after a primary bed of activated carbon



Pressure Drop per Foot of Bed Depth



Material Safety Data Sheet

ACTIVATED ALUMINA

Section 1-Chemical Product and Company Identification

【Name of Goods】: Activated alumina

【Appearance &Oder】: Purple spherical,odorless

【Identity for Samples】: Chemical Analysis

Company: GONGYI CITY BEI SHAN KOU WATER PURIFICATION MATERIALS
FACTORY

Address: Bai He Village, Bei Shan Kou Town, Gong Yi, Zhengzhou, Henan, China

Information Phone No: +86-371-56063779

Emergency Phone No: +86-371-56063779

Fax No: +86-371-85011386

Section 2-Composition/Information on ingrediants

【Name】: Activated alumina

【Chemical formula】: $AL_2O_3 \cdot nH_2O (0 < n \leq 0.8)$

【Molecular Weight】: 101.96

Ingredients	CAS No.	content
Al ₂ O ₃ (Aluminum oxide)	1344-28-1	93.6%
SiO ₂ (Silicon dioxide)	7631-86-9	0.06%
Fe ₂ O ₃ (Diiron trioxide)	1309-37-1	0.18%
Na ₂ O (sodium oxide)	1313-59-3	0.45%
water	7732-18-5	5.71%

Section 3-Hazards Identification

【Most Important Hazards】: None

【Adverse Human Health Effects】: Swallowed,May cause nausea, vomiting and respiratory irritation.

【Enviromental Effects】: None

【Physical and Chemical Hazards】: None

Section 4-First Aid Measures

- 【Inhalation】: Seek medical advice immediately
- 【Skin Contact】: wash with water.
- 【Eye Contact】: In case of powder, flush with plenty of water for at least 15 minutes.
- 【Ingestion】: Induce vomiting. Rinse mouth with water.

Section 5-Fire Fighting Measures

- 【Flash Point】: 2980° C
- 【Extinguishing Media】: This product would not burn, use extinguishing media appropriate for surrounding
- 【Special Fire-Fighting Procedure】: None
- 【Fire and Explosion Hazards】: None

Section 6-Accident Release Measures

If spilled on road or floor, sweep and collect materials to prevent slipping, Released materials must be collected for environmental protection.

Section 7-Handling and Storage

- 【Handling】: Prevent from fire around handling area. Maintain good house keeping standards to prevent accumulation of dust. Moving gently, to prevent damage packaging and containers and pay attention to personal protection
- 【Storage】: Keep the materials at a cool dry place. Protect from direct sunlight and rain, Fire is inhibited around storage area.

Section 8-Physical and Chemical Properties

- 【Threshold Limit Value】: Not determined
- 【Ventilation】: General ventilation is recommended
- 【Personal Protection Eye】: Wear safety glasses for general purpose.
- 【Respiratory】: Wear masks to protect from breathing dust
- 【Gloves】: Wear rubber gloves

Section 9-Physical and Chemical Properties

- 【Physical State】: spherical solid
- 【Appearance】: Purple
- 【Odor】: None
- 【Boiling Point Temperature】: Above 2977°C
- 【Melting Point Temperature】: Above 2050°C

【Solubility】 : Insoluble in water, Micro solution in inorganic acid and alkali liquid
【Specific Gravity】 : 0.72

Section10-Stability and Reactivity

【Flammability】 : No information
【Flash Point】 : No determined
【Auto-ignition Temperature】 : No
【Reactivity with Water】 : No
【Stability】 : Stable under normal condition and non-reactive under normal handling and storage condition.
【Thermal Decomposition Gases】 : No information

Section 11-Toxico Logical Information

【Urgent Toxicity】 : None.
【Slow or Long Toxicity】 : None
【Local Effect】 : None
【Special Effect】 : None

Section 12-Ecological Information

Based on our recommend product application and the product's characteristics,the potential environmental exposure is low

Section 13-Disposal Considerations

If this product becomes a waste.Must be disposed off according to local, state, and federal regulations

Section 14-Transport Information

Avoid moisture and rough handling which may damage its package, if bag is broken and the materials are spilled,sweep and collect them immediately to prevent slipping and falling.

Section 15-Regulatory Information

Comply with HG/T 3927—2007 National chemical industry standard

Section 16-Additional Information

Based on our recommended use of this product,we have characterized the product's

CC-PP12

general risk, this information should provide assistance for your own risk management practices. We have evaluated our product's risk as follows:

The human risk is low, The environmental risk is low

The information contained herein is offered only as a guide to the handling of this specific material and has been prepared in good faith by technically knowledgeable personnel. It is not intended to be all-inclusive and the manner and conditions of use and handling may involve other and additional considerations



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