



Protecting and Defending  
*Unrivalled Performance of Impregnated Carbon*





With 75+ years of unrivaled innovations in activated carbon, Calgon Carbon Corporation is the global provider of quality of life environmental solutions.

**Because failure isn't an option.**

proven  
dependable  
trusted

## Our History

Calgon Carbon Corporation, A Kuraray Company, is a global leader in the manufacture of high-quality activated carbon products that are unrivaled in their extraordinary performance. Our products are used in over 700 distinct market applications and ultimately make air safer to breathe and water safer to drink. One area that demonstrates these characteristics is our impregnated activated carbon portfolio.

## The Calgon Carbon Difference

### Experience

Our genesis is from the development of lifesaving, respirator-activated carbon products manufactured in the United States for the U.S. Department of Defense in 1942. Prior to that, coconut shell was the primary raw material for activated carbon; however, this material was becoming less available. Calgon Carbon, at that time Pittsburgh Coke & Chemical, developed a new source of activated carbon in domestic bituminous coal, which exhibited performance advantages over the traditional coconut materials. To this day, we continue to be the sole supplier to the U.S. Military for this critical component and have expanded our portfolio to include not only military respirators, but also collective protection, industrial respirators, home air filtration, and industrial gas purification.



### Reliability

While many companies can offer impregnated activated carbon products, Calgon Carbon provides unrivaled capabilities in technical service, new product development, and product quality. With the broadest manufacturing capabilities in the business, Calgon Carbon controls the manufacturing of the activated carbon base material, the impregnation process, and rigorous quality control of the entire process to ensure the end product is of the upmost quality and high-performing every time.

### Innovation

In March 2018, Calgon Carbon Corporation was acquired by Kuraray Co. Ltd., a large conglomerate dedicated to high-performing products for specialty applications in home water filters, energy storage, and home air filters.

Together, we are committed to developing new fields of business by pioneering technologies that improve the environment and enhance the quality of life throughout the world for people, and the planet, to achieve what no one else can.

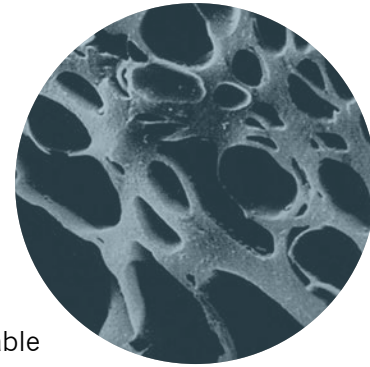




# Activated Carbon

## Activated Carbon & Impregnated Activated Carbon

Activated Carbon is a highly porous, organic material used to remove impurities and hazardous contaminants from liquids and gases. In pure form, activated carbon “adsorbs” or removes contaminants by attracting and holding the undesirable molecules to the carbon surface. This phenomenon is the result of intermolecular attractions or forces inherent to the carbon pore structure.

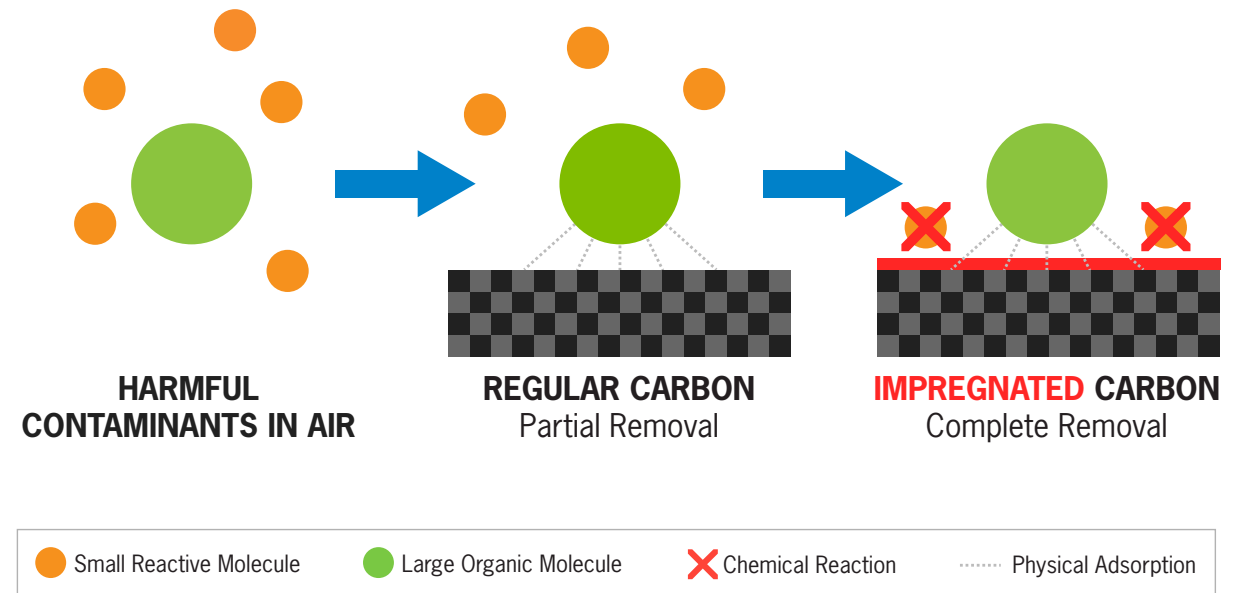


To enhance the performance of activated carbon, the material can be “impregnated” with a variety of chemical compounds or metals. These impregnates will chemically neutralize hazardous contaminants, creating a safe, non-toxic environment. The individual and combined benefits of activated carbon and impregnates result in a material with unmatched performance characteristics critical for respirator and collective protection, as well as home air filtration and industrial applications.

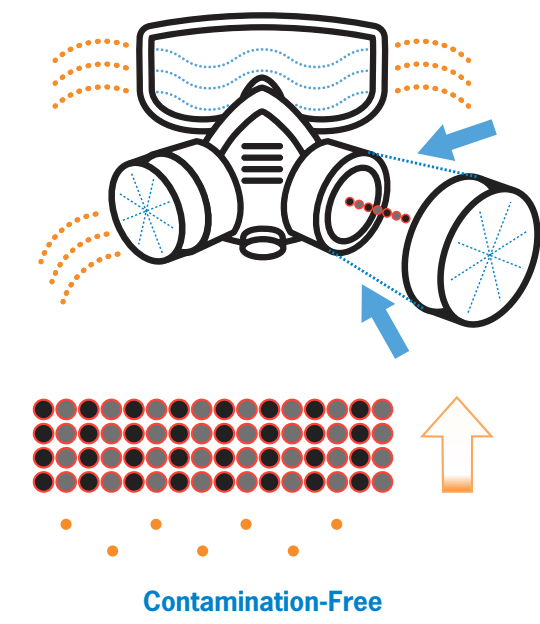
Our high-quality activated carbon products can be customized to meet specific performance requirements and are tailored for applications to meet the world’s most challenging conditions and environments.

One handful of activated carbon has the surface area equivalent to that of a football field. This massive surface area makes activated carbon an ideal adsorbent.

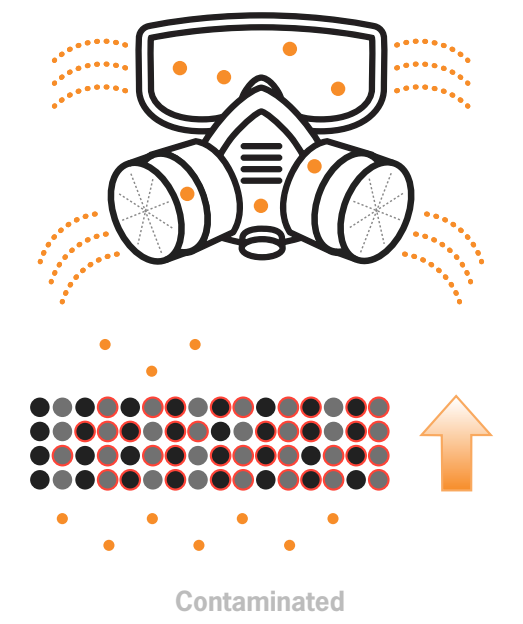
# How It Works



### CALGON CARBON IMPREGNATION High Performing & Consistent



### COMPETITOR IMPREGNATION Low Performing & Inconsistent



● Standard Activated Carbon ● Impregnated Activated Carbon ● Harmful Cotaminants ~~~~~ Purified Air Flow





# Military & CBRN

Calgon Carbon has a long history of protecting and defending military personnel and first responders with our activated carbon products, and we remain committed to providing adsorbents to combat chemical warfare agents. In an environment where there is no room for failure in performance and supply, why wouldn't you rely on products that have been used, trusted, and excelled in performance for over half a century?

## Military & CBRN

Product	UFR	ASZM TEDA®	RESPCARB® ABEK
Certifications	Multi-contaminant and CBRN A, B, E, K	Compliant with MIL Spec 32101	A, B, E, K
Benefits	<p>Excellent protection against a wider range of toxic industrial chemicals (TIC), toxic industrial materials (TIMS), and CBRN agents</p> <p>Provides both physical and chemical adsorption capacity</p> <p>Great product of choice for first responder applications</p> <p>Chrome-free formulation</p> <p>US sourced and manufactured</p>	<p>Premier product for military applications</p> <p>Protection against a wide range of TIC and CBRN agents</p> <p>Unmatched chemical adsorption efficiency</p> <p>Chrome-free formulation</p> <p>US sourced and manufactured</p>	<p>Carefully selected high-quality coconut char for unique pore structure and superior hardness</p> <p>Low dust</p> <p>Chrome-free formulation</p> <p>UK manufactured</p>



protecting  
& defending



# Industrial Respirator

## Chrome-free Industrial Respirator & Collective Protection

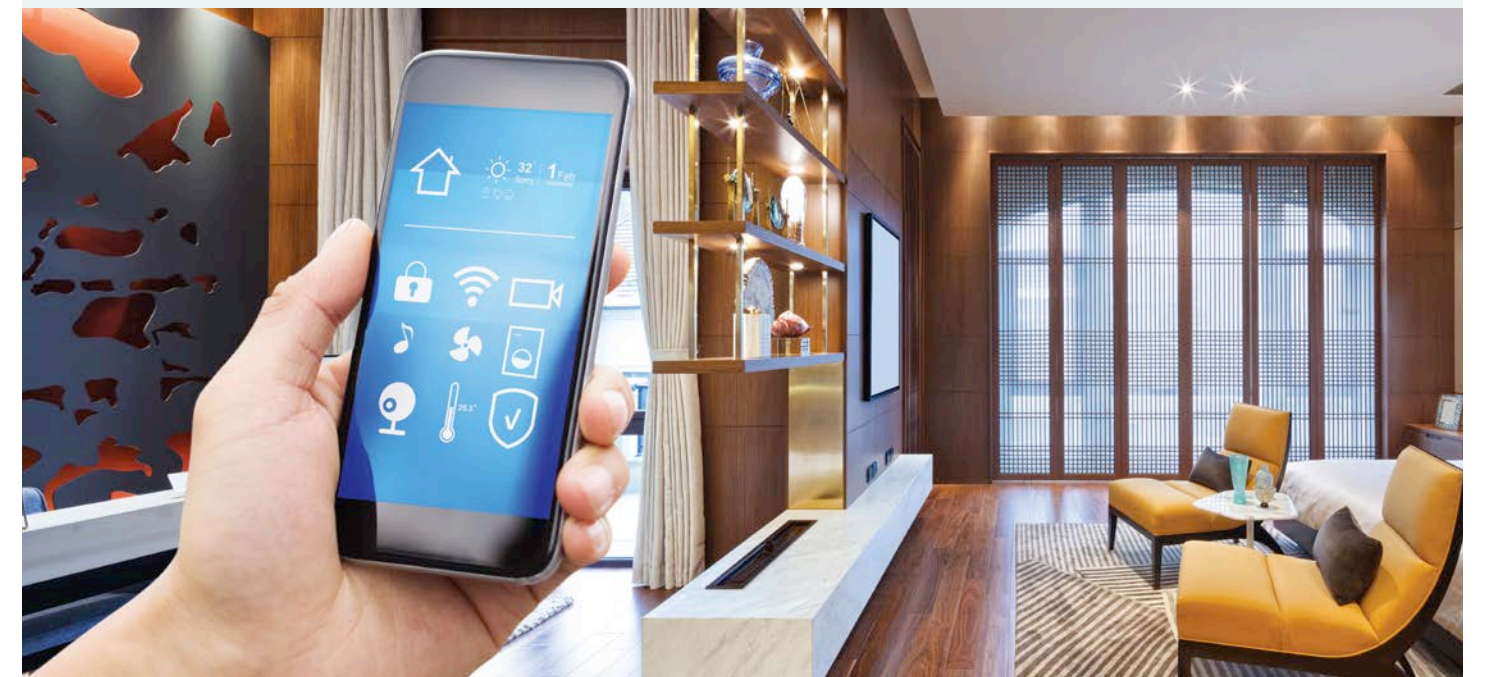
Product	NIOSH Filter Classes	EN 14387 (EU) Filter Types	Benefits
RVG	Organic Vapors (OV)	A	<ul style="list-style-type: none"> <li>Excellent physical adsorption capacity</li> <li>Tailored particle size distribution to <b>minimize dP</b></li> </ul>
AGR	Acid Gas and OV	A, E	<ul style="list-style-type: none"> <li>Highly effective for <b>acid gases</b>, such as SO<sub>2</sub>, H<sub>2</sub>S, Cl<sub>2</sub>, etc.</li> <li>Provides both physical and chemical adsorption</li> </ul>
CK	Mercury	Hg	<ul style="list-style-type: none"> <li>Provides excellent protection against <b>mercury</b></li> <li>Provides both physical and chemical adsorption</li> </ul>
BGR	Ammonia Gas	K	<ul style="list-style-type: none"> <li>Excellent <b>ammonia</b> and <b>amine</b> adsorption capacity</li> </ul>
URC	Multi-contaminant	A, B, E, K	<ul style="list-style-type: none"> <li>Protection against a wide range of contaminants</li> <li>High capacity and efficiency</li> <li>Provides both physical and chemical adsorption</li> </ul>
MGC®	Multi-contaminant		<ul style="list-style-type: none"> <li>Specifically designed to meet <b>NIOSH</b> requirements</li> </ul>
UFR	Multi-contaminant and CBRN	A, B, E, K	<ul style="list-style-type: none"> <li>Excellent protection against a wide range of industrial gases and <b>CBRN</b> agents</li> <li>Great product choice for <b>first responders</b></li> </ul>
RESPCARB® ABEK NG		A, B, E, K	<ul style="list-style-type: none"> <li>Specifically designed to meet <b>EN</b> requirements</li> <li>A highly activated impregnated <b>GAC</b> for multi-purpose use in <b>respirators</b></li> </ul>
RESPCARB® ABEK HGR		A, B, E, K Mercury	<ul style="list-style-type: none"> <li>Specifically designed to meet <b>EN</b> requirements</li> <li><b>RESPCARB® ABEK</b> with capacity for mercury removal</li> </ul>
RESPCARB® BR1		A, B, E	<ul style="list-style-type: none"> <li>Specifically designed to meet <b>EN</b> requirements</li> </ul>
RESPCARB® KR1		K	<ul style="list-style-type: none"> <li>Specifically designed to meet <b>EN</b> requirements</li> </ul>



# Industrial & Home Air Filters

## Chrome-free Industrial Applications & Home Air Filters

Product	Mesh Size Available	Applications
CJ	6x12	<ul style="list-style-type: none"> <li>Premium <b>H<sub>2</sub>S</b> removal</li> <li>Additional capacity for <b>VOC</b> removal</li> <li>Traditionally used for <b>CO<sub>2</sub></b> purification</li> </ul>
Sulfusorb 10	4x10, 12x30	<ul style="list-style-type: none"> <li>Premium <b>H<sub>2</sub>S</b> removal</li> <li>Additional capacity for <b>thiol, mercaptans</b>, and other organics</li> <li>Traditionally used in industrial <b>odor abatement</b> and <b>LNG</b> purification</li> </ul>
209M	3 or 4mm pellet	
FPA	4x10	<ul style="list-style-type: none"> <li><b>Phosphine</b> and <b>arsine</b> removal</li> <li>Designed for <b>MOCVD</b> abatement</li> </ul>
Solcarb KS3	3mm pellet	<ul style="list-style-type: none"> <li><b>Acid gas</b> carbon</li> </ul>
Solcarb C3	3mm pellet	<ul style="list-style-type: none"> <li><b>H<sub>2</sub>S, thiols, sulfur dioxide, carbonyl sulfide</b>, and <b>nitrogen oxides</b></li> </ul>
T-BFU	35x60; 2 or 3mm pellet	<ul style="list-style-type: none"> <li><b>Aldehyde</b> removal—<b>Formaldehyde, acetaldehyde; ammonia</b></li> </ul>
Ammonasorb	4x8, 6x12	<ul style="list-style-type: none"> <li><b>Ammonia</b> removal</li> </ul>
STIX	4mm	<ul style="list-style-type: none"> <li>Good <b>H<sub>2</sub>S</b> removal</li> </ul>





# The Benefits



## Experienced & Battle Tested Products

Calgon Carbon is a global company with multiple manufacturing and impregnation facilities throughout the world. With recent United States' Defense Product Act (DPA) expansion project at our Pearlinton, Mississippi facility, we are the world's largest producer of impregnated activated carbon. With over 75 years of experience in designing products capable of providing clean, breathable air in complex uninhabitable atmospheres, Calgon is an industry expert in impregnation chemistry for many different applications.

## Revolutionary New Product Development

Calgon Carbon was the original manufacturer of the ASC product used from 1942 until the 1990s. This product was chrome containing and needed to find a replacement product that did not sacrifice performance with new impregnants. Calgon Carbon developed ASZM TEDA® to replace ASC in the 1990s. ASZM TEDA is still the industry standard for military applications. Calgon Carbon also developed and patented the first multi-gas adsorbent, URC®, which remains the industry standard for industrial respirators.

## Industry's Best Research & Development

- State-of-the-art Innovation Centers at CCC's global headquarters in Pittsburgh, PA and Tsurumi, Japan have proprietary equipment to test activated carbons and performance for impregnated products
- Long history of new product development to meet customer needs
- Full customer access to our R&D team for technical support and discussion, which includes our PhD staff
- Full suite of 220 internal activated carbon standard tests that can assess quality of products and activated carbon performance
- Have our own vapor phase testing laboratory, as well as relationships with fully qualified third-party labs to supplement internal capability and to provide independent confirmations for customers
- Proprietary modeling to predict product performance for a given application as a screening tool
- Over 371 activated carbon patents

## Access to Our Experienced Engineers & Scientists

- 100% access to Calgon Carbon's full-time application engineering staff to current customers at no cost
- Special product formulations for specific customers
- Support for process problems, upsets, carbon quality questions

When you purchase from Calgon Carbon, you not only are buying activated carbon, you are buying the experience and peace of mind that your products will perform as expected every time.



Over 75 years of experience designing products capable of providing clean, breathable air in complex uninhabitable atmospheres.



# Your Global Solutions Partner



[calgoncarbon.com](http://calgoncarbon.com)

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