

# CAMERON GREAT LAKES, INC.

## MOLECULAR FILTRATION SPECIALISTS

### BULK MEDIA FOR LIQUID PHASE APPLICATIONS

**Acid Washed Media** : CGL acid washed media is suitable for use in food and pharmaceutical applications, purification of acids, caustic liquors, plasticizers, soda ash and fatty acids.

- **CG83AW** : Coal granular 8 x 30 mesh acid washed carbon.
- **CG124AW** : Coal granular 12 x 40 mesh activated carbon.

**Bituminous Coal Based Media**: Coal based carbon with a broad well developed pore structure suitable for controlling a wide range of molecular weights, making it ideally suited for applications including, wastewater treatment, spill control and clean up.

- **CG124**: Coal granular 12 x 40 mesh activated carbon.
- **CGR83**: Reactivated coal granular 8 x 30 mesh activated carbon.

**All Purpose Activated Carbons**: Fine mesh activated carbons coarser than powdered activated carbon providing better flow and improved filtration rates.

- **MR3150**: Activated carbon 30 x 150 mesh.
- **MR50**: Activated carbon > 50 mesh.

#### **Specialty Liquid Phase Media:**

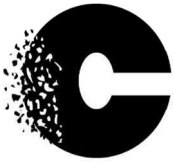
- **CCS-AG**: High activity silver impregnated coconut shell carbon, designed to reduce microbial growth in high grade water treatment applications.
- **OMZ Organo Sorbant**: A modified alumino silicate designed to absorb anions such as chromate, selenate, sulfate, hydrocarbons, heavy metals and various petroleum products from waste streams.
- **Z100**: Alumino-silicate based natural mineral having desirable selective ion exchange and adsorption properties, suitable for removing ammonia from wastewater, radionuclides from radioactive waste, and toxic and heavy metal from industrial process water and wastewater.

#### **Media Packaging Options**

5 Gallon Pails: 20 pounds (0.67cf<sup>3</sup>)  
Boxes.....: 30 pounds (1.0 f<sup>3</sup>)  
Bags.....: 50 pounds (1.8cf<sup>3</sup>)

14 Gallon Drums.: 50 pounds (1.67 cf<sup>3</sup>)  
55 Gallon Drums.: 200 pounds (6.67 cf<sup>3</sup>)  
Bulk Super Sacks: 1000 pounds (33.34 cf<sup>3</sup>)

Weights above are based on a media density of 30 pounds per cf<sup>3</sup>. Packages will accommodate more weight with media of heavier densities. See individual specification sheets for actual media bulk density.



# **CAMERON GREAT LAKES, INC.**

## **MOLECULAR FILTRATION SPECIALISTS**

### **CGL CG830AW**

#### **DESCRIPTION**

Bituminous Coal Based activated carbon specially produced with a broad, well developed pore structure to enhance the adsorption of color bodies and organic impurities from process streams. CGL/GAC83A is acid washed to lower the leachable metals and for pH adjustment.

#### **APPLICATIONS**

It is suitable for use in food and pharmaceutical applications, purification of acids, caustic liquors, plasticizers, soda ash and fatty acids.

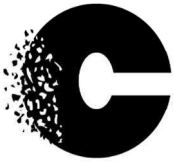
### **Physical Properties**

<b>US STANDARD SIEVE SIZE: 8 x 30 GREATER THAN NO. 8 LESS THAN NO. 30</b>	<b>15 %, MAXIMUM 4 %, MAXIMUM</b>
<b>MOLASSES NUMBER</b>	<b>240 AVERAGE</b>
<b>BULK DENSITY</b>	<b>30 LBS/ CU FT, AVG.</b>
<b>MOISTURE CONTENT (ASTM-D2867-95)</b>	<b>2 %, AS PACKED</b>
<b>ABRASION NUMBER, RO-TAP</b>	<b>80, AVERAGE</b>
<b>IODINE NUMBER, MG/G (ASTM D4607-94)</b>	<b>920, MINIMUM</b>
<b>ASH CONTENT</b>	<b>8%</b>

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# CAMERON GREAT LAKES, INC.

## MOLECULAR FILTRATION SPECIALISTS

### CGL GAC124A

#### DESCRIPTION

Bituminous Coal Based activated carbon specially produced with a broad, well developed pore structure to enhance the adsorption of color bodies and organic impurities from process streams. CGL/GAC124A is acid washed to lower the leachable metals & for pH adjustment.

#### APPLICATIONS

It is suitable for use in food and pharmaceutical applications, purification of acids, caustic liquors, plasticizers, soda ash and fatty acids.

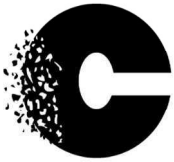
### Physical Properties

US STANDARD SIEVE SIZE: 12 x 40 GREATER THAN NO. 12 LESS THAN NO. 40	15 % MAXIMUM 4 % MAXIMUM
MOLASSES NUMBER	240 AVERAGE
BULK DENSITY	30 LBS/CU FT, AVG.
MOISTURE CONTENT, (ASTM-D2867-95)	2 %, AS PACKED
ABRASION NUMBER, RO-TAP	80, AVERAGE
IODINE NUMBER, MG/G(ASTM D4607-94)	920, MINIMUM
ASH CONTENT	8 %

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# CAMERON GREAT LAKES, INC.

## MOLECULAR FILTRATION SPECIALISTS

### CGL CG83

**DESCRIPTION:** CG83 is a bituminous coal base activated carbon. It has broad pore structure range providing a wide range of molecular adsorption.

**APPLICATIONS:** It is capable of controlling a wide range of molecular weights making it ideally suited for applications including, wastewater treatment, spill control and clean up.

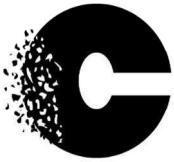
### Physical Properties

Mesh Size:	8x30
Total Surface Area:	$\geq 950 \text{ m}^2/\text{g}$
Bulk Density:	0.49 - 0.54 g/cc
Iodine Number, minimum:	>975 mg/g
Average Diameter:	0.8 - 1.0 mm
Hardness Number:	>75
Moisture, as packed:	<2 %
Grain Diameter:	1.5 - 1.7 mm

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# CAMERON GREAT LAKES, INC.

## MOLECULAR FILTRATION SPECIALISTS

### CGL CGR83

**DESCRIPTION:**

CGR83 is a remanufactured bituminous coal base activated carbon. It has broad pore structure range providing a wide range of molecular adsorption.

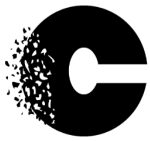
**APPLICATIONS:**

It is capable of controlling a wide range of molecular weights making it ideally suited for applications including, wastewater treatment, spill control and clean up.

### Physical Properties

Mesh Size:	8x30
Total Surface Area:	$\geq 950 \text{ m}^2/\text{g}$
Bulk Density:	0.49 - 0.54 g/cc
Iodine Number:	>900 mg/g
Average Diameter:	0.8 - 1.0 mm
Hardness Number:	>75
Moisture, as packed:	<2 %
Grain Diameter:	1.5 - 1.7 mm

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# **CAMERON GREAT LAKES, INC.**

## **MOLECULAR FILTRATION SPECIALISTS**

### **CGL CG124**

**DESCRIPTION:** CGR12 x 40 is a bituminous coal base activated carbon. It has broad pore structure providing a wide range of molecular adsorption.

**APPLICATIONS:** It is capable of controlling a wide range of molecular weights making it ideally suited for applications including, wastewater treatment, spill control and clean up.

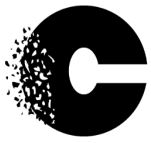
### **Physical Properties**

US Standard Sieve Size 12 x 40 Greater than 12 Less than 40	15 % maximum 4 % maximum
Molasses Number:	240 average
Bulk Density:	30 lbs / cu. ft. average
Abrasion Number, RO-TAP:	80, average
Moisture Content, (ASTM D2867-95)	2 %, as packed
Iodine Number, mg/g (ASTM D4607-94)	1000, minimum

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# **CAMERON GREAT LAKES, INC.**

## **MOLECULAR FILTRATION SPECIALISTS**

### **CGL CGR124**

**DESCRIPTION:**

CGR12 x 40 is a bituminous coal base activated carbon. It has broad pore structure providing a wide range of molecular adsorption.

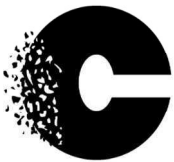
**APPLICATIONS:**

It is capable of controlling a wide range of molecular weights making it ideally suited for applications including, wastewater treatment, spill control and clean up.

### **Physical Properties**

Mesh Size:	12 x 40
Total Surface Area:	$\geq 950 \text{ m}^2/\text{g}$
Bulk Density:	0.49 - 0.54 g/cc
Iodine Number:	>900 mg/g
Average Diameter:	0.85 mm
Hardness Number:	>75
Moisture, as packed:	<2 %
Grain Diameter:	1.5 - 1.7 mm

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# **CAMERON GREAT LAKES, INC.**

## **MOLECULAR FILTRATION SPECIALISTS**

### **CGL MR50**

**DESCRIPTION:**

CGL/MR50 is a quality, fine meshed activated carbon. It is coarser than AC's and flows better accordingly. This coarse characteristic also provides improved filtration rates.

**APPLICATIONS:**

All purpose.

### **Physical Properties**

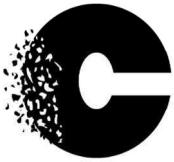
APPARENT DENSITY, G/CC	<b>0.45</b>
MOISTURE CONTENT, AS PACKED	<b>5% MAXIMUM</b>
MOLASSES NUMBER	<b>210 MINIMUM</b>
IODINE NUMBER, MG/G (ASTM D4607-94)	<b>850 MINIMUM</b>
ASH CONTENT, MAXIMUM	<b>12%</b>

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# **CAMERON GREAT LAKES, INC.**

## **MOLECULAR FILTRATION SPECIALISTS**

### **CGL MR3150**

**DESCRIPTION:** CGL/MR3150 is a quality, fine meshed activated carbon. It is coarser than PAC's and flows better accordingly. This coarse characteristic also provides improved filtration rates.

**APPLICATIONS:** All purpose.

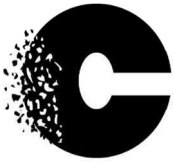
### **Physical Properties**

APPARENT DENSITY, G/CC	<b>0.45</b>
MOISTURE CONTENT, AS PACKED	<b>5% MAXIMUM</b>
MOLASSES NUMBER	<b>210 MINIMUM</b>
MESH SIZE, TYPICAL	<b>30 x 150</b>
IODINE NUMBER, MG/G (ASTM D4607-94)	<b>850 - 950</b>
ASH CONTENT, MAXIMUM	<b>12%</b>

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## MOLECULAR FILTRATION SPECIALISTS

### CGL CCS—Ag

#### DESCRIPTION

High activity silver impregnated coconut shell carbon. It is available in a variety of mesh sizes, including 8 x 30, 12 x 40, and 20 x 50.

#### APPLICATIONS

Specifically designed to reduce bacterial growth in high grade water treatment applications. Ideal for use in the under-the counter drinking water filters or any application that requires taste & odor removal combined with bacteria control.

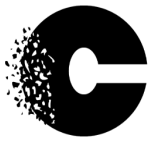
### Physical Properties

Activity for CCL <sub>4</sub> , (ASTM D3467-94)	60 % minimum
Bulk Density, Typical	29 LBS/ CU FT
Silver Content	0.01— 0.05 % (as Ag)
Ball Pan Hardness, (ASTM D3802-79)	99, Minimum
Iodine Number, MG/G (ASTM 4607-94)	1050, Minimum
Ash Content, Maximum	3%

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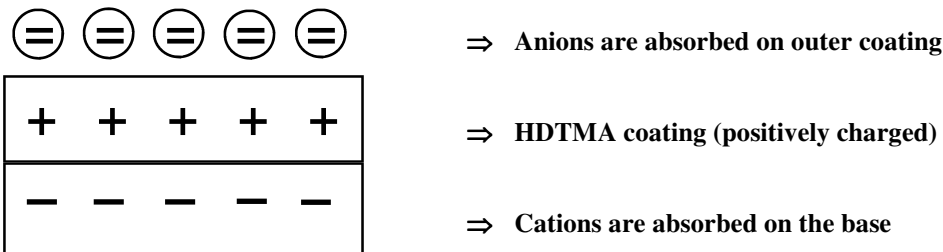
### CGL OMZ\*

**OMZ\* Organo Sorbant** is a patented, modified alumino silicate that is designed to absorb anions such as chromate, selenate, sulfate, hydrocarbons (such as benzene, toluene, and xylene), heavy metals (such as lead and cadmium), and various petroleum products (such as oil) from aqueous waste streams.

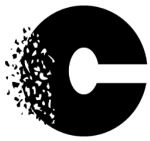
APPLICATIONS	CONTAMINANTS REMOVED
Groundwater	diesel fuel, gasoline, oils, PCB's BTX, heavy metals, perchloroethylene, trihalomethanes
Manufacturing Process Water	oil, grease
Paint Stripping	solvents, heavy metals
Electroplating	heavy metals
Wood Treating	pentachlorophenol, creosote
Produced water from oil production wells	oil, diesel fuels

### How OMZ Works

The basic concept involves imparting hydrophobicity to the base alumino silicate. To do this, the alumino silicate substrate is coated with a strongly bound hydrophobic compound. Other hydrophobic chemicals, such as hydrocarbons, prefer to combine with the surface-modified particles rather than maintaining suspension in water. The treated alumino silicate also absorbs inorganic oxyanions such as chromate, selenate and sulfate while maintaining its natural sorption capacity for heavy metals. The diagram below illustrates the concept of how OMZ works. The base media of OMZ is CGL type Z100, an alumino silicate with an exceptional cation exchange capacity. The modifying agent is HDTMA - a strong cation that replaces other cations on the surface of Z100 producing a surface anion exchanger.



\*U.S. Patent Nos. 5278112, 5314852, and other patents pending



# CAMERON GREAT LAKES, INC.

## MOLECULAR FILTRATION SPECIALISTS

### Why OMZ is Superior to Tailored Clays

Tailored clays have been used successfully for a number of years to adsorb organic contaminants. OMZ, because it is not a clay medium but an alumino silicate, is a better alternative. When water passes through a clay medium, the clay particles expand reducing the interparticle space and lowering the permeability of the clay medium. Indeed, the tailoring process itself, due to coagulation of the tailoring agent, may cause a further reduction of permeability. The OMZ alumino silicate is a large network of open channelways similar to a sponge with uniform holes and a high cation exchange capacity. Unlike clay particles, this structure is rigid and stable (even under aqueous conditions) allowing more contaminants to be adsorbed in its open channelways.

DESCRIPTION	PROPERTIES OF OMZ
Buff or off-white granules of an alumino-silicate base modified with a quaternary ammonia compound. Standard particle sizes are 6 x 14 mesh or 4 x 6 mesh.	Cation exchange capacity 2.20 meq/g Bulk density (treated) 55 lbs/cu ft. Hardness Mohs scale 5.1 Pore size 4.OA Thermal stability 1202 <sup>0</sup> F Specific surface area 40 sq. m/g Crushing strength 2500 lbs/sq. in
STANDARD PACKAGING	
<ul style="list-style-type: none"> <li>• 100 Pound Fiber Drums</li> <li>• 400 Pound Fiber Drums</li> <li>• 80 Pound Bags</li> <li>• 2000 Pound Super Sacks</li> </ul>	

**OMZ can be effective in the removal of the following contaminants from waste streams:**

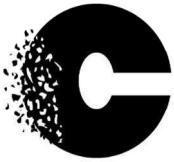
#### ORGANIC CONTAMINANTS

anthracene	naphtalene
benzene	non-ionic surfactants
chloroform	penenthrene
creosote	oil
ethyl benzene	pentachlorophenol
diesel fuel	perchloroethylene
flourene	pyrene
fulvic acids	solvents
grease	toulene
humic acids (TOC's)	total organic carbons
indeno pyrene	trihalomethane

#### HEAVY METALS

aluminum	magnesium
antimony	manganese
arsenic	mercury
barium	nickel
cadmium	selenium
calcium	silver
chromium	tin
cobalt	zinc
copper	
iron	
lead	

Information herein is accurate to the best of our knowledge. Suggestions are made without warranty or guarantee of results. Before using, buyer should determine the suitability of the product for its intended use, and buyer assumes the risk and liability in connection therewith. OMZ presents no health hazards when shipped, stored, and handled properly. Please refer to our Material Safety Data Sheet for more complete information.



# CAMERON GREAT LAKES, INC.

## MOLECULAR FILTRATION SPECIALISTS

### Z100 NATURAL ZEOLITE FILTRATION MEDIA

**DESCRIPTION**

Buff or off-white granules of an alumino-silicate based natural mineral. Standard particle sizes are 4 x 6 mesh and 6 x 8 mesh. Custom mesh sizes available.

**APPLICATIONS**

Natural zeolites have desirable selective ion exchange and adsorption properties. Clinoptilite, such as CGL Z-100, can be used for removal of the following:

- radionuclides from radioactive wastewater
- ammonia from wastewater
- toxic & heavy metals from industrial process water and wastewater (e.g. metal finishing & secondary metals operations).

Z-100 can be effective in the removal of the following metals from aqueous solutions:

aluminum	Antimony	arsenic	barium	cadmium
calcium	chromium	cobalt	copper	iron
lead	magnesium	manganese	mercury	nickel
selenium	silver	tin	zinc	

Note—The selectivity of zeolite for metals depends on numerous factors including the hydration, channel dimensions, and exchangeable cation composition of the zeolite and the pH, temperature, composition and concentration of the solutions to be treated. A bench “jar” test or pilot study is highly recommended.

### **PROPERTIES OF Z-100**

Cation exchange capacity	2.20 meq/g
Bulk density (treated)	55 lbs/cu ft
Hardness Mohs scale	5.1
Pore size	4.OA
Thermal Stability	1202° F
Specific surface area	40 sq m/g
Crushing strength	2500 lbs/sq in

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