



## FREQUENTLY ASKED QUESTIONS

### 1. What is Wateropolis Cerapure-MAC?

Cerapure-MAC is a dark & gold colored catalytic media used to remove soluble iron, manganese, hydrogen sulfide from water supplies. It simultaneously provides > 99% removal of 10-micron particles.

### 2. What is Cerapure-MAC media made from?

The media is made from an extremely hard ceramic core substrate coated with manganese dioxide, lead-free copper, zinc alloy and activated carbon. The copper component of the alloy is bacteriostatic and has been tested to confirm reduction of bacterial content of a filter and as such this eliminates the potential for iron bacterial overgrowth. The combination of manganese dioxide, zinc and carbon acts as an electron transfer catalyst in the oxidation reduction reaction of iron and manganese using oxygen as the electron donor.

### 3. Can Cerapure-MAC be used in existing filters designed with other media in the market?

Yes. Wateropolis Cerapure-MAC can be used as a direct replacement media for all existing iron removal filters. Cerapure-MAC will reduce influent oxidizers to non-detect.

### 4. What are common applications for Cerapure-MAC?

Common uses for Wateropolis Cerapure-MAC include potable water treatment, POU, POE and pre-treatment for spiral wound membrane plants. Cerapure-MAC will eliminate oxidants from feed water including ozone, chlorine, chloramines and hydrogen peroxide.

### 5. What is the advantage of Cerapure-MAC in drinking water applications?

The extremely reactive nature of the metals and carbon combination makes the material highly effective at oxidation. It simultaneously provides exceptional 5-micron particle filtration. The filter will not experience biological overgrowth that often occurs in other filters.

### 6. What is the typical operating life of Cerapure-MAC?

Typical operating life of the media is 5 - 7 years.

### 7. What is the service flow rate and backwash rate of Cerapure-MAC?

Wateropolis Cerapure-MAC has a filter loading rate of 8 – 10 gpm/ft2 and a backwash rate of 10-12 gpm/ft2.

### 8. Is any pre-conditioning of Cerapure-MAC required?

Yes, Wateropolis Cerapure-MAC requires minimal pre-conditioning. The product is designed to utilize dissolved oxygen in the influent water for the catalytic oxidation operation and as an alternative hydrogen peroxide can be used upstream as an oxidation agent. Influent chlorine can be present in the influent as long as required DO levels are maintained. DO levels should be at least 15% of the total iron & manganese value.

### 9. What is the one-time installation pre-conditioning process?

Backwash the media at a minimum of 10 gpm/ft2 at 55°F (13°C) for up to 20 minutes (40% expansion). Then, for initial conditioning, mix 0.5 gallon (1.9L) of 6% household bleach or prepare 0.2 gallon (0.75L) of 12% sodium hypochlorite for every 1 ft3 (28.3 m3) of media into 6.5 gallons (25L) of water. This is a 0.5% solution.

After an initial backwash, drain the filter to enable the addition of the diluted chlorine mix. Next, apply the dilution to the filter, allowing it to contact the media. Cerapure-MAC should soak for at least 20 minutes. Finally, rinse or backwash the filter until the residual is <0.2 mg/L, this will occur quickly as the reductive surface of Cerapure-MAC will reduce the chlorine as it soaks.

*Continued on the back*



### CONTACT US

sales@urbansaqua.com • 610-365-7818 • www.urbansaqua.com

# CERAPURE-MAC



## 10. Is Wateropolis Cerapure-MAC NSF approved?

Yes, Wateropolis Cerapure-MAC is Certified to the NSF/ANSI-61 Standard.

## 11. Does Cerapure-MAC help remove H<sub>2</sub>S in the feed water?

Yes, Cerapure-MAC is very effective in removing H<sub>2</sub>S from incoming water. The reaction with the copper component creates Copper sulfide which is trapped in the filter until backwashed out. A secondary reaction also occurs between the manganese dioxide. The use of oxidant chemicals will also convert H<sub>2</sub>S to sulfur for filtration.

## 12. Is Cerapure-MAC effective in removing iron from water, where water has limited or no oxygen?

Yes, when Cerapure-MAC is used according to our specified process, it is very effective in removing iron and manganese from wastewater, even if the dissolved oxygen level is almost nil.

## 13. What kind of filtration system is needed?

Systems using either vertical or horizontal pressure filtration can use Cerapure-MAC.

## 14. Does Cerapure-MAC have parameters for levels of dissolved oxygen, alkalinity, free chlorine, H<sub>2</sub>S, TDS, or pH of water?

For best results, Wateropolis recommends that water pH exceed 6.2. There are no other limitations or restrictions.

## 15. Would high differential pressure or high flow rate destroy Wateropolis Cerapure-MAC?

No, Cerapure-MAC is very durable and will not break down with high differential pressure and flow rates. We recommend a maximum differential pressure across the bed of 30 psi (2.1 Kg/cm<sup>2</sup>).

## 16. Are there basic recommended operating conditions?

pH range 6.2 – 8.5

No maximum operating temperature,

Backwash characteristics 10 gpm/ft<sup>2</sup> minimum– 12 gpm/ft<sup>2</sup> recommended. (24.4 m/hr - 29.3 m/hr)

Service flow rate 8-10 gpm/ft<sup>2</sup> (19.6 – 24.4 m/hr)

Minimum bed depth 10” (254mm) to 24” (610 mm) optimal

## 17. What are some other characteristics of the product?

Loose bulk density 88 lbs per cubic foot

Porosity 0.47 (approximately)

Screen grade (dry) 50 x 60 mesh

Uniformity coefficient <1.40

## 18. How is Cerapure-MAC packaged?

The media is shipped in 44 lb. (20 kg.) plastic lined paper bags or in 20 ft<sup>3</sup> super sacs.

*\*Patent pending*



**ABOUT WATEROPOLIS** Wateropolis Inc. is dedicated to identifying and developing new and innovative technologies for water and wastewater treatment. We look for simple, logical answers to complex questions.