

# Filtration | Separation | Purification

# MetSorb® HMRG Effective, Low-Cost Adsorbent for Removal of Heavy Metals

MetSorb® HMRG and HMRP adsorbents utilize a patented material to adsorb both forms of arsenic as well as a wide range of contaminants in water. Empty bed contact times as low as 10 seconds achieve high removal efficiencies. The material affords a higher capacity and a lower level of ion interference than competitive iron and alumina based products.

MetSorb® HMRG media's adsorptive capacity is 7-12 grams of arsenic per kilogram of HMRG adsorbent in drinking water applications with a pH range of 6.5-8.5. Much higher adsorptive capacities have been measured, up to 400 g/kg, in industrial treatment applications.

### **Adsorbent Product Features/Benefits**

- Removal of heavy metals to meet drinking water standards
- High adsorbent capacity requiring less frequent replacement
- Fast kinetics to work effectively at high flow rates
- Nonhazardous disposal as solid waste

#### Contaminants

- Arsenic III
- Lead
- Arsenic V
- Mercury
- Cadmium
- Uranium
- Copper
- Zinc
- Antimony
- Selenium

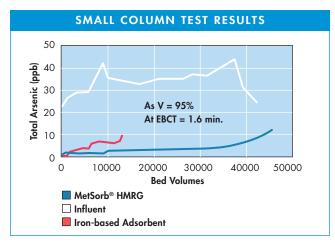
#### **Applications**

- Commercial and industrial treatment units for drinking water or contaminated water
- Municipal water treatment
- Carbon blocks
- Cartridges for pitchers
- Faucet mounted and countertop devices
- Household point of entry treatment units



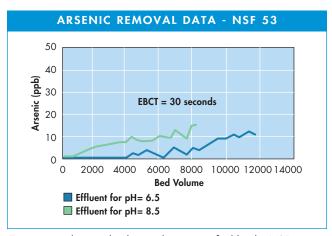
## **MetSorb® HMRG Adsorbent Specifications**

	HMRG Granular	
Appearance	White granules	
Moisture Content	<10%	
Bulk Density	0.65 grams per cc (40 lb/ft³) milliliter	
Other	Free Flowing	
Particle Size	-16/+60 U.S. mesh (other sizes available)	

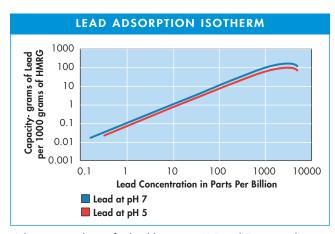


Comparison of HMRG adsorbent with iron-based adsorbent.

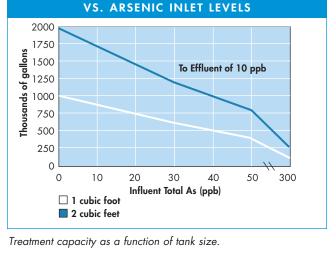
BATCH TEST DATA-ADSORPTIVE CAPACITY MetSorb® HMRG			
Metal	Initial Concentration	Final Concentration	
Arsenic V	50 ppb	<2 ppb	
Arsenic III	50 ppb	5 ppb	
Cadmium	1,000 ppb	24 ppb	
Copper	500 ppb	5 ppb	
Lead	1,000 ppb	18 ppb	
Mercury	500 ppb	26 ppb	
Zinc	500 ppb	12 ppb	



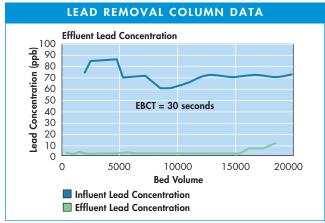
Testing was done under the conditions specified by the NSF Standard 53 for Arsenic. Results at a pH of 6.5 and a pH of 8.5 are shown in the graph above.



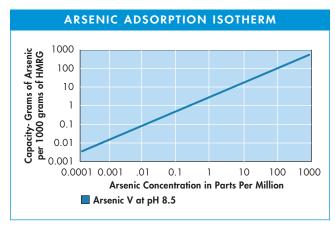
Adsorption isotherms for lead between pH 5 and 7 are nearly identical.



ARSENIC TREATMENT CAPACITY



Lead removal by MetSorb® HMRG adsorbent in column test; 30 seconds EBCT.



The above graph shows the adsorption isotherm for Arsenic V at pH 8.5.

#### For more information

MetSorb® HMRG Customer Service: 1-800-533-6623





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