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

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

**MetSorb® HMRG Adsorbent Specifications**

<table>
<thead>
<tr>
<th>HMRG Granular</th>
<th>Appearance</th>
<th>White granules</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moisture Content</td>
<td>&lt;10%</td>
<td></td>
</tr>
<tr>
<td>Bulk Density</td>
<td>0.65 grams per cc (40 lb/ft³) milliliter</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Free Flowing</td>
<td></td>
</tr>
<tr>
<td>Particle Size</td>
<td>−16/+60 U.S. mesh (other sizes available)</td>
<td></td>
</tr>
</tbody>
</table>

**SMALL COLUMN TEST RESULTS**

Comparison of HMRG adsorbent with iron-based adsorbent.
### BATCH TEST DATA-ADSORPTIVE CAPACITY
**MetSorb® HMRG**

<table>
<thead>
<tr>
<th>Metal</th>
<th>Initial Concentration</th>
<th>Final Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Arsenic V</td>
<td>50 ppb</td>
<td>&lt;2 ppb</td>
</tr>
<tr>
<td>Arsenic III</td>
<td>50 ppb</td>
<td>5 ppb</td>
</tr>
<tr>
<td>Cadmium</td>
<td>1,000 ppb</td>
<td>24 ppb</td>
</tr>
<tr>
<td>Copper</td>
<td>500 ppb</td>
<td>5 ppb</td>
</tr>
<tr>
<td>Lead</td>
<td>1,000 ppb</td>
<td>18 ppb</td>
</tr>
<tr>
<td>Mercury</td>
<td>500 ppb</td>
<td>26 ppb</td>
</tr>
<tr>
<td>Zinc</td>
<td>500 ppb</td>
<td>12 ppb</td>
</tr>
</tbody>
</table>

#### ARSENIC REMOVAL DATA - NSF 53

![Graph showing arsenic removal data](image)

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.

#### LEAD REMOVAL COLUMN DATA

![Graph showing lead removal](image)

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

#### LEAD ADSORPTION ISOTHERM

![Graph showing lead adsorption isotherm](image)

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

#### ARSENIC ADSORPTION ISOTHERM

![Graph showing arsenic adsorption isotherm](image)

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

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**For more information**

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

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Member of:

- Water Quality Association
- Rural Water Association

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