

# SMALL WATER SYSTEM SOLUTIONS APU & MODULAR SYSTEM APPLICATIONS

## Adsorption Media – Arsenic Reduction

Adedge Technologies' Bayoxide®E33 media is the industry standard for arsenic reduction that reduces up to 99% of total arsenic, including both arsenic (III) and arsenic (V). It is also effective in reducing other heavy metals such as lead, cadmium, chromium, antimony and molybdenum. This revolutionary new iron-based granular adsorption media has 4 to 10 times the capacity of many adsorption medias. Adedge's product is specifically designed for commercial and residential POE and small systems to meet the new EPA arsenic standard of 10 ppb. Developed in the mid-nineties, this ferric oxide-based product has been successfully used in large-scale drinking water applications since 1999. The new E33 media is discardable when spent and requires no chemicals or regeneration. It has become the premier product of choice for commercial drinking water treatment systems for reliable, cost-effective, proven reduction of arsenic.

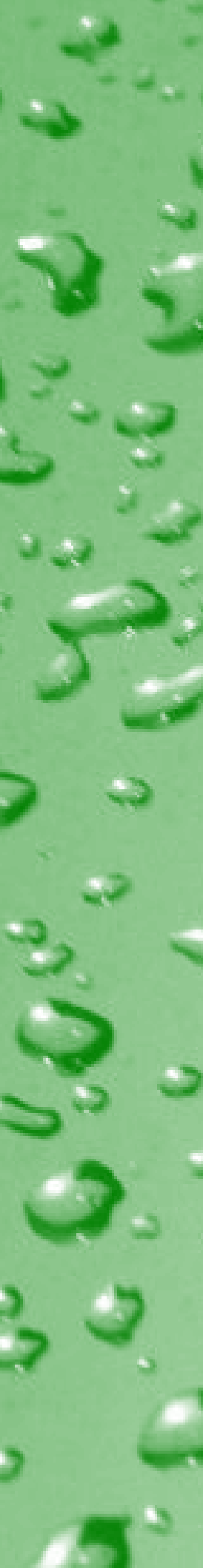
<ul style="list-style-type: none"> <li>✓ Removal of up to 99% of total Arsenic in water, including As (III) &amp; As (V) with no wasting of water.</li> </ul>	<ul style="list-style-type: none"> <li>✓ NSF 61 product listing (see AdEdge for listing site/product details)</li> <li>✓ Effective over broad water chemistry.</li> </ul>
<ul style="list-style-type: none"> <li>✓ Spent media discarded as non-hazardous household waste.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Simple application for commercial applications for arsenic removal.</li> </ul>
<ul style="list-style-type: none"> <li>✓ Reliable performance, low maintenance</li> <li>✓ Adaptable add-on to water softening or other existing equipment.</li> </ul>	<ul style="list-style-type: none"> <li>✓ 2 - 2.5 times lighter than other iron-based media; easily backwashable; arsenic not released or discharged in backwash water.</li> </ul>
<ul style="list-style-type: none"> <li>✓ Effective for reducing lead, chromium, cadmium, molybdenum and antimony.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Imparts no harmful chemicals into the treated product water.</li> <li>✓ No salt, chemicals or regeneration needed</li> </ul>

### TECHNICAL SPECIFICATIONS

E33 provides cost effective centralized arsenic treatment with a typical life of 6-36 months before replacement. The media exhibits high operating capacity across a wide range of pH, influent arsenic concentrations and flow rates. It is simple to apply in standard pressure vessels with flow rates ranging from 10-300 gallons per minute. Once the media is exhausted, E33 can be discarded as a non-hazardous waste (specific state requirements should be consulted). Media is easy to handle and can be stored and shipped dry.

Physical Properties	E33 Media
Matrix	Iron Oxide Composite
Physical Form	Dry granular media
Color	Amber
Particle Size Distribution	10x35 or 14x18 mesh
Moisture Content	< 15% by wt.
Packaged	Dry





Arsenic Removal Performance (POE)	
Arsenic concentration range <sup>1,2</sup>	10 – 100+ ppb
Arsenic species reduced	As (III) and As (V)
Removal efficiency	Up to 99%
Estimated media life	6-36 months
Expected life bed volumes <sup>3</sup>	site specific
Spent media disposal <sup>4</sup>	Non-hazardous waste
Empty bed contact time	3 minutes typical

**Notes:**

1. Typical arsenic contamination in U.S. < 50 ppb.
2. Capable of removing higher As concentrations. Consult AdEdge for applications above 100 ppb.
3. Actual bed volumes based on water quality.
4. Reference US EPA TCLP protocol

Parameter	Value <sup>1</sup>
pH range <sup>2</sup>	5.5 - 8.5
Arsenic <sup>3</sup>	< 100 ug/L
Iron	< 0.3 mg/L
Manganese	< 0.05 mg/L
Phosphate	< 0.5 mg/L
Silica	< 30 mg/L
Sulfate	< 100 mg/L
Sulfides	< detect mg/L
TSS	< 5 mg/L
Fluoride	< 1 mg/L
Hardness	< 300 mg/L
Turbidity	5 NTU

**WATER QUALITY CRITERIA**

**Notes:**

1. Recommendations for best performance.
2. Water > 8.5 pH may require pH adjustment for best results. Contact Adedge for technical support.
3. For all applications, complete Adedge POE profile sheet to pre-qualify site for proper use; consult Adedge Authorized dealer or distributor for details
4. Pre-treat for tannins if present prior to adsorption



*Use of E33 media in typical Modular and APU system installations.*

**Notes:**

1. Media life based on gallon usage and water profile; will vary by individual site based on water quality and usage
2. AdEdge recommends effluent testing and monitoring program to determine media breakthrough.



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