Arsenic in Tolono Area Groundwater: Water Treatment
Get Water Analyzed First!

- Maybe it’s OK.
- Information helpful in choosing treatment option.
- ISWS Public Service Laboratory
Reverse Osmosis

- Mature technology, wide choice, low price.
- Point of use, not point of entry.
- Still need softener.
RO Vendor Disclaimers

- Need to know As speciation.
- Won’t guarantee >50% As(III) removal.
Arsenic Removal by Reverse Osmosis

![Arsenic Removal by Reverse Osmosis](chart.png)

- **Raw**: Arsenic levels are significantly reduced through softening and reverse osmosis.
- **Softened**: A substantial decrease in arsenic levels is observed after softening.
- **RO** (Reverse Osmosis): A further drop in arsenic levels is seen compared to softening.

*Not detected*
Moretti (2002)
Fig. 1. Arsenic concentrations from private well water from 18 homes in Nevada before and after reverse osmosis filtration. (For display purposes, we did not include the home with the very high prefiltration arsenic concentration [pre- and postfiltration arsenic concentrations of 2363 and <10 μg/l] in the figure.)

Figure 1. POU-RO Installation Configuration in a Household Kitchen

- Faucet with Air Gap
- Product
- Third Stage Activated Carbon Filter
- Drain
- Inlet
- Storage Tank
- First Stage Activated Carbon
- Reverse Osmosis Module
Culligan Good Water Machine RO

With the Culligan AC-30 Good Water Machine®, you'll worry about your drinking water again. Using three set filtration methods, including our exclusive reverse osmosis filter – the most advanced filtration method available - AC-30 Good Water Machine reduces copper, lead, selenium, radium 226/228, cadmium, chromium and TDS. All affect the quality, taste and smell of your water. With the Culligan AC-30 Good Water Machine, you get more than great water, you get true peace of mind that your water is cleaner than before.
Adedge 2 Stage Arsenic + Sediment

List Price: $759
Price: $492.86
Shipping Weight: lbs

Manufacturer: AdEdge
Manufacturer#: PUG

Product Document: AdEdge DWS-2S-01 Product Sheet
POU CARTRIDGE FOR ARSENIC

High Performance Point-of-Use Solutions

Adedge Technologies, Inc. is introducing two new POU cartridges for arsenic reduction. These products are the most cost-effective technology to date to meet the challenges of the new 10 micrograms per liter (μg/l) drinking water standard for arsenic established by EPA. Products incorporate a proprietary iron oxide media for long life and high performance. Cartridges effectively reduce both Arsenic (V) and Arsenic (III) without pre-oxidation. Ideal applications include under-counter and countertop POU systems.

CARTRIDGE PERFORMANCE

Applications
Ideal for Under-counter or countertop POU systems
Model AD-2710S: 50 μg/l of arsenic, 0.5 gpm flow, pH 6.5-8.5
Model AD-4510S: 100 μg/l of arsenic, 0.5 gpm flow, pH 6.5-8.5

Arsenic Reduction
Reduction of up to 99% of total Arsenic Effective for both As (III) & As (V)

Capacity
1000 - 3,000 gallons; 46 times longer life than other commercial adsorption options (conservative rating at pH 8.5)

Contaminants
Primary: Arsenic Secondary: lead, chromium, cadmium, molybdenum, zinc, and antimony

Certifications
NSF 61 product listing on Media (see Adedge for details).

Components
FDA-listed components

Extractables
Impacts no harmful chemicals into the treated product water

The standard Model AD-2710S has been optimized for extended life and fits most standard and slimline 10-inch housings. The AD-2710S is designed to treat 50 μg/l of total arsenic to less than 10 μg/l (based on pH 8.5). Arsenic (V) challenges using NSF 53 protocols. The AD-4510S version is a 4.5x10-inch BE size cartridge designed for tackling higher arsenic concentrations above 50 μg/l. Both are filled with 100% Adedge Technologies AD-33L arsenic reduction media for maximum performance.

TECHNICAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Specification</th>
<th>Model AD-2710S</th>
<th>Model AD-4510S</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dimensions</td>
<td>2.75 x 9.75-inch</td>
<td>4.5 x 9.75-inch</td>
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<tr>
<td>Media type(s)</td>
<td>Custom AD-33L Iron Oxide</td>
<td>Custom AD-33L Iron Oxide</td>
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<tr>
<td>Cartridge life</td>
<td>1,000 gallons</td>
<td>3,000 gallons</td>
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<tr>
<td>Micron rating</td>
<td>25 Micron Nominal</td>
<td>25 Micron Nominal</td>
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<tr>
<td>Pressure drop</td>
<td>&lt; 8 psi at 0.5 gpm</td>
<td>&lt; 8 psi at 0.5 gpm</td>
</tr>
<tr>
<td>Housings</td>
<td>Fits most conventional housings</td>
<td>Fits most conventional housings - consult your Adedge Distributor for details</td>
</tr>
</tbody>
</table>

Recommended Water Quality for Best Performance

- pH: 6.5 - 8.5
- Arsenic < 30 or 100 μg/l (see above)
- Phosphate < 0.5 mg/l
- Iron < 0.5 mg/l
- Silica < 10 mg/l
- Sulfate < 100 mg/l
- Fluoride < 1 mg/l

Contact your local dealer:

Removes “up to 99%” of total As

Capacity 1000 gallons

Fe < 0.5 mg/L
Mn < 0.05 mg/L
H₂S < 0.1 mg/L

Install downstream from softener