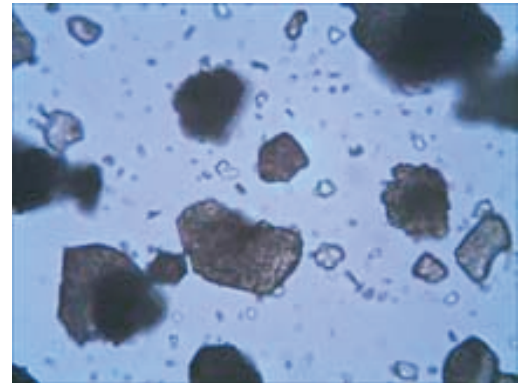


# Dyna-Aqua Uranium

*An effective, hybrid, alumina based metal oxide designed specifically for heavy metal removal from water and wastewater.*



Dyna-Aqua Uranium magnified 40x.

**Produced with DAI's unique, patented technology, Dyna-Aqua Uranium results in a material with superior performance and capacities - exhibiting high selectivity in the presence of competing ions with good kinetics over a broad operating range. Designed and manufactured to address the pressing needs outlined by the Federal Statutes monitored by the Office of Environmental Management, Department of Energy, Dyna-Aqua Uranium provides a more efficient means to remove effluent from groundwater and surface water at radioactive environmental waste sites.**

Dyna-Aqua Uranium is a metal oxide composite with an effective size of greater than 600 microns, offered as either granular or spherical granules. Because of its tailored design it exhibits high selectivity in the presence of competing ions with good kinetics over a broad operating range. Dyna-Aqua Uranium can be easily retrofitted into conventional water treatment equipment or vessels.

Applications include a wide array of industrial, environmental, and commercial applications for removing inorganic contaminants in groundwater and surface waters. DAI's Dyna-Aqua Uranium can be utilised or retrofitted easily into conventional water treatment equipment or vessels. Regeneration options are available based on the application.

The cleanup of uranium enrichment sites includes the following:

- a. Groundwater – billions of gallons of groundwater are contaminated with radioactive and hazardous materials
- b. Surface water – a principal source of this contamination is rain runoff from the thousands of tons of contaminated scrap metal located at each of the enrichment sites
- c. Surface soils – both on and off site soils and sediments are contaminated by water runoff, spills and buried waste
- d. Legacy waste
- e. DOE material storage areas
- f. Burial grounds – containing barrels of chemicals with low levels of radioactivity and hazardous chemicals

## Technical Specs

| <b>Properties</b>                                 |  |
|---|--|
| <b>Matrix</b>                                     | Metal Oxide Composite                            |
| <b>Physical Form</b>                              | Granular or spherical particles                  |
| <b>Particle Size Distribution</b>                 | 300-850 microns (typical, application dependent) |
| <b>Mesh (ASTM)</b>                                | 20 x 50, 12 x 28, 28 x 48 (others available)     |
| <b>Effective Size</b>                             | > 600 microns                                    |
| <b>Uniformity Coefficient</b>                     | < 1.6  |
| <b>Total Capacity</b>                             | Range from 2-20 g / kg media                     |
| <b>Apparent Bulk Density</b>                      | 46 - 50 lbs / ft <sup>3</sup>                    |
| <b>Porosity</b>                                   | > 65 %   |
| <b>Crush Strength</b>                             | 15 lbs   |
| <b>Loss on Ignition (LOI)</b>                     | 2 - 10% @ 300°C                                  |
| <b>BET Surface Area</b>                           | 220 - 280 m <sup>2</sup> / gram                  |
| <b>Suggested Operating Conditions</b>             |  |
| <b>Maximum Media Operating Temperature</b>        | 800°F  |
| <b>Recommended pH Range</b>                       | 6-8 recommended                                  |
| <b>Bed Depth (Min)</b>                            | 30 Inches  |
| <b>Empty Bed Contact Time</b>                     | 5 - 15 minutes typical                           |
| <b>Service Flow Rates</b>                         | 0.5 - 1.5 gpm / ft <sup>3</sup>                  |
| <b>Service Flow Velocity</b>                      | 4 - 10 gpm / ft <sup>2</sup>                     |
| <b>Regenerant Flow Rates</b>                      | 0.5 - 1.5 gpm / ft <sup>3</sup>                  |
| <b>Backwash Flow Rate (application dependent)</b> | 4 - 12 gpm / ft <sup>2</sup>                     |
| <b>Pressure Drop @ 15°C</b>                       | 0.1 - 0.5 psi / ft bed                           |