

## Aquatreat® AR-900A

### General purpose antiscalant

Aquatreat AR-900A is a low-molecular weight polyacrylic acid that is used as a general purpose water treatment antiscalant with a cloudy appearance prior to neutralization with an alkali.

Aquatreat AR-900A polyacrylic acid is suggested for use as an antiscalant for calcium carbonate and calcium sulfate, and also functions as a desludger and acid cleaner. The recommended level of application for Aquatreat AR-900A is 3 to 8 ppm.

| Technical property                                   | Typical values |
|--|----------------|
| Total solids, %                                      | 49.0 - 51.0    |
| pH (as recieved)                                     | 2.2 - 3.5      |
| Viscosity (Brookfield RVT 25°C, 20 rpm)              | 50 - 500 cps   |
| Intrinsic viscosity, (0.2N NaCl, 25°C, pH 7-9, dL/g) | 0.045 - 0.070  |

### FDA regulations

Aquatreat AR-900A meets requirements of 21CFR 173.310, if fully neutralized with sodium hydroxide.

### Example antiscalant inhibition

#### Aquatreat AR-900A antiscalant data (A.S.T.M. method)

| Dosage, ppm | % Inhibition calcium sulfate |
|-------------|------------------------------|
| 2           | 0                            |
| 4           | 1.7                          |
| 5           | 50.1                         |
| 6           | 77.2                         |
| 7           | 80.2                         |
| 8           | 92.0                         |

  

| Dosage, ppm | % Inhibition calcium carbonate |
|-------------|--------------------------------|
| 1           | 25.4                           |
| 3           | 63.5                           |
| 5           | 95.9                           |
| 7           | 98.2                           |

### Sodium hydroxide neutralization requirement data

#### Aquatreat AR-900A

| pH   | Grams NaOH (dry) per grams polymer (dry) | Mole. % neutralized |
|------|--|---------------------|
| 1.9  | -  | -                   |
| 2.1  | .0041                                    | 0.97                |
| 2.5  | .0116                                    | 2.7                 |
| 3.0  | .0346                                    | 8.2                 |
| 3.5  | .0737                                    | 17.4                |
| 4.0  | .129                                     | 30.5                |
| 4.5  | .198                                     | 46.8                |
| 5.0  | .279                                     | 65.9                |
| 5.5  | .353                                     | 83.5                |
| 6.0  | .393                                     | 92.9                |
| 6.5  | .410                                     | 96.9                |
| 7.0  | .418                                     | 98.8                |
| 7.6  | .421                                     | 99.5                |
| 8.0  | .422                                     | 99.8                |
| 9.1  | .423                                     | 100.0               |
| 9.5  | .423                                     | 100.5               |
| 10.8 | .423                                     | 100.0               |
| 11.5 | .424                                     | 100.2               |
| 12.0 | .424                                     | 100.4               |
| 12.5 | .425                                     | 100.5               |

$$\text{Polymer equivalent weight} = 94.56 = \frac{1 \times 40.0}{0.423}$$

For complete information on Aquatreat AR-900A polyacrylic acid, please contact Nouryon customer service in North America at 1-800-906-9977.

Contact us directly for detailed product information and sample requests.

**USA and Canada**

Chicago, USA  
T +1 800 906 9977

**China**

Shanghai, China  
T +86 21 2220 5000

**Europe**

Stenungsund, Sweden  
T +46 303 850 00

**South America**

Itupeva, Brazil  
T +55 11 4591 8938

**South East Asia**

Singapore  
T +65 6635 5183

**Middle East**

Dubai, United Arab Emirates  
T +971 (0) 4 2471500

**Central America and Caribbean**

Mexico City, Mexico  
T +52 55 5261 7895

**India**

Mumbai, India  
T +91 22 6842 6700

**Russia**

Moscow, Russia  
T +7 495 766 1606

**About Nouryon**

We are a global specialty chemicals leader. Markets worldwide rely on our essential chemistry in the manufacture of everyday products such as paper, plastics, building materials, food, pharmaceuticals, and personal care items. Building on our nearly 400-year history, the dedication of our 10,000 employees, and our shared commitment to business growth, strong financial performance, safety, sustainability, and innovation, we have established a world-class business and built strong partnerships with our customers. We operate in over 80 countries around the world and our portfolio of industry-leading brands includes Eka, Dissolvine, Trigonox, and Berol.

For more information visit [surfacechemistry.nouryon.com](http://surfacechemistry.nouryon.com)

All information concerning our products and/or all suggestions for handling and use contained herein (including formulation and toxicity information) are offered in good faith and are believed to be reliable. However, Nouryon makes no warranty express or implied (i) as to the accuracy or sufficiency of such information and/or suggestions, (ii) as to any product's merchantability or fitness for a particular use or (iii) that any suggested use (including use in any formulation) will not infringe any patent. Nothing contained herein shall be construed as granting or extending any license under any patent. The user must determine for itself by preliminary tests or otherwise the suitability of any product and of any information contained herein (including but not limited to formulation and toxicity information) for the user's purpose. The safety of any formulations described herein has not been established. The suitability and safety of a formulation should be confirmed in all respects by the user prior to use. The information contained herein supersedes all previously issued bulletins on the subject matter covered.

Products mentioned are trademarks of Nouryon and registered in many countries.

**Nouryon**