



AQUA-CLEAR® AE

Acid Enhancer/Antifoulant

Description AQUA-CLEAR® AE is a liquid blend of acids and acid enhancers formulated to control bacterial slime contamination due to the presence of iron-related and sulphate-reducing bacteria.

Applications/Functions

- Remove the biomass matrix caused by bacterial fouling
- Reduce sulfur taste and odor in water
- Clean up well screens, pumps and distribution system
- Restore well productivity and reduce power and maintenance costs
- AQUA-CLEAR AE can be used in combination with AQUA-CLEAR® MGA and other acids such as, hydrochloric (muriatic), phosphoric and sulfamic to enhance their effectiveness and to remove more difficult scale and incrustation

Advantages

- NSF/ANSI/CAN Standard 60 certified
- Safe to use on all plastics, rubber and metals
- Cost effective, efficient extended life treatment
- Improves water quality and renews well production rate
- Mitigates corrosion and equipment failure
- Reduces pumping costs

Typical Properties

• Appearance	Light amber colored liquid
• Specific gravity	1.08
• pH of solution	1.1

Recommended Treatment *To treat bacteria fouling and scale encrustation:*

- Record initial well water pH.
- It is always recommended to mix acid formulations in pre-determined volumes of freshwater on the surface and ensure they are uniformly mixed prior to placement into the screened interval of the well.
- The preferred application method is to apply the mixture containing AQUA-CLEAR AE into the screened interval through a dual disc surge tool that is perforated between the discs. This allows the user to uniformly treat the entire screened interval with the acid solution.
- Mix AQUA-CLEAR AE with water at 9.5 gallon per 100 gallons of water or 95 L per m³ of water and apply directly into screened interval using a dual disc surge tool with perforations between the discs or a tremie pipe.

Recommended Treatment (continued)

- When utilizing this method, the **minimum** calculated volume of water can be determined by using the borehole diameter and the length of the screened interval and double the calculated volume to account for the water present inside the screen, gravel pack and the formation interface.

Note: The above concentration of AQUA-CLEAR AE is recommended for a complete rehabilitation/reconditioning of an existing well.

- Displace solution into the well screen and formation, then surge, swab, agitate or jet well through screen and gravel pack for 20-30 minutes.
- Allow to stand in well for up to two hours and then repeat activity approximately every two hours for a period of 24 hours.
- Pump well water to captured waste until produced well water pH is within 0.5 of original well pH.

Note: Wastewater can be neutralized by adding soda ash or lime.

- Once turbidity specifications and pH requirements have been met then and only then can the well be chlorinated and reconnect to water distribution system.
- Remember in many locations it is required to capture and submit a water sample for bacterial analysis to confirm the water is safe before reconnecting to the distribution system.

Caution: Never mix chlorine and AQUA-CLEAR AE in well.

Notes:

- **To optimize outcome, it is always recommended to begin by airlifting any biomass and debris from the well. To better prepare the well for rehabilitation, the second step is to remove as much encrustation and biomass mechanically from the interior of the casing and screen and then pump or airlift the debris to waste prior to treating with acid.**
- **To achieve the best rehabilitation outcome, it is always recommended to mix AQUA-CLEAR AE and AQUA-CLEAR MGA together to enhance penetration of scale and biomass materials.**

Safety

- Use recognized standard practices for handling corrosive and acidic materials (refer to Material Safety Data Sheet).
- Avoid skin and eye contact – flush with water.
- Do not ingest and avoid prolonged inhalation.
- When disposing of waste fluid make sure to comply with all federal, state and local regulations as applicable.

Packaging

AQUA-CLEAR AE is packaged in a 5-gallon (19-liter) plastic container or in 55-gallon (208-liter) drums.

Shipping

- The following are required for commercial transport:
- Insurance policy must include an endorsement for transporting hazardous cargo.
- Vehicle driver must have a Hazmat endorsement on his/her Commercial Driver's License.
- Hazardous Materials Certificate of Registration issued by the U.S. Department of Transportation (renewable annually) is required.
- Consult the state in which operating for any additional requirements that may exist.
- No hazardous materials placard is required for shipments less than 1000 pounds.

Availability

AQUA-CLEAR AE can be purchased through any Baroid Industrial Drilling Products Retailer. To locate the Baroid IDP retailer nearest you, contact the Customer Service Department in Houston or your area IDP Sales Representative.

Baroid Industrial Drilling Products**Product Service Line, Halliburton**

3000 N. Sam Houston Pkwy E.

Houston, TX 77032

Customer Service	(800) 735-6075 Toll Free	(281) 871-4612
Technical Service	(877) 379-7412 Toll Free	(281) 871-4613
