



# PRODUCT DATA SHEET

## ECONO-A104

### Acid Gelling Agent/Acid Retarder

#### PRODUCT FEATURES

Highly Effective HCl Gelling Agent  
Provides Stable Acid Gel Up To 150°F  
Retards Acid at Temperatures up to 200°F  
Retards HCl for Improved Treatment  
Compatible with Acid Corrosion Inhibitors

#### DESCRIPTION

**ECONO-A104** is a highly effective hydrochloric acid gelling agent designed for application in acidizing and fracturing operations. The product effectively gels hydrochloric acid up to 38% and provides stable viscosities at temperatures up to 150°F. In 15% hydrochloric acid, viscosities of 50 to 60 cps are economically produced using **ECONO-A104**. This gelled acid retards the spending of the acid resulting in increased penetration and treatment effectiveness. Acid systems prepared with **ECONO-A104** provide excellent suspension of fines and enhance formation and near well bore clean up during acid flow back. Due to possible reductions in viscosity, the use of anionic products in systems gelled with **ECONO-A104** is not recommended. The product is totally compatible with all cationic and nonionic acidizing and stimulation additives, including acid corrosion inhibitors.

#### RECOMMENDED APPLICATIONS:

It is recommended that the HCl, water, and other additives be thoroughly mixed prior to the addition of **ECONO-A104**. After proper mixing, **ECONO-A104** is typically added to the acid at a load rate of 10 to 50 gallons per 1,000 gallons, depending upon the concentration of the HCl and other additives being used and the desired viscosity. The gel will form immediately upon the addition of **ECONO-A104**. The system should then be circulated to assure uniform mixing of the **ECONO-A104** to provide a consistent viscosity of the treatment fluid. Pilot testing is recommended with the test fluids to determine optimum usage concentrations for specific treatments.



P.O. Box 450246  
Houston, TX 77245-0246  
USA Toll free: (800) 231-2066  
Phone: (713) 723-8416  
Fax: (713) 723-1845  
URL: [www.EconomyPolymers.com](http://www.EconomyPolymers.com)  
E-mail: [economy@economypolymers.com](mailto:economy@economypolymers.com)



## ECONO-A104

### TYPICAL PHYSICAL PROPERTIES

Form at 70 <sup>0</sup> F	Light Amber Liquid
Density (lbs/gal.)	7.38
Flash Point (°F)	>20
<b>Solubility</b>	
Fresh Water	Soluble
15% HCl	Soluble
Hydrocarbon	Dispersible
Ionic Charge	Cationic
pH, (10% solution)	6.5-7.5

### STORAGE AND HANDLING

**ECONO-A104** is available in 55 gallons drums, tote tanks, and bulk tank wagons. As with any industrial chemical, keep out of reach of children and avoid prolonged contact with skin and eyes. In case of skin or eye contact, flush the exposed area with copious amount of water. A material safety data sheet outlining proper handling of this product is available upon request, or will be forwarded upon the purchase of the product.

### SHIPPING INFORMATION

UN1993, Flammable Liquid. N.O.S. (Contains Methanol), 3, PG II



P.O. Box 450246  
Houston, TX 77245-0246  
USA Toll free: (800) 231-2066  
Phone: (713) 723-8416  
Fax: (713) 723-1845  
URL: [www.EconomyPolymers.com](http://www.EconomyPolymers.com)  
E-mail: [economy@economypolymers.com](mailto:economy@economypolymers.com)



**ECONO-A104**

**Performance Data and Retardation Rates**

<u>Loading</u>	<u>Temp. F</u>	<u>Viscosity Cp.</u>	<u>Acid Strength</u>
15 Gal/1000	75	16-17 cp	15% Hcl
20 Gal/1000	75	21-22 cp	15% Hcl
30 Gal/1000	75	32-33 cp	15% Hcl

<u>Corrosion Rate</u>		<u>lb/sq ft/day</u>	
15 Gal/1000	75	0.006	15% Hcl
20 Gal/1000	100	0.026	15% Hcl
30 Gal/1000	130	0.035	15% Hcl
30 Gal/1000	130	0.021	15% Hcl **

\*\* This test performed with the addition of 2 gpt Econo-CIAS-303 (Specialized non-ionic inhibitor)

**Retardation Rates**

Base 15% Hcl no additives	120F	10 Min.	66% loss
15% Competitor 20 gpt	120F	10 Min.	10% loss
15% Econo-A104 20 gpt	120F	10 Min.	6% loss
Base 15% Hcl no additives	120F	30 Min.	97% loss
15% Competitor 20 gpt	120F	30 Min.	46% loss
15% Econo-A104 20 gpt	120F	30 Min.	18% loss

\*\* Econo-A104 will exhibit up to 85% retardation rates at ambient temperature.

\*\* Econo-A104 will exhibit up to 79% retardation rates at 120F.

\*\* Econo-A104 retardation rates can be enhanced with the addition of Calcium Chloride.

\*\* Econo-A104 is not dependant upon viscosity to achieve retardation.

\*\* Econo-A104 at loadings of 15-20 gpt is the most economical way to achieve the desired penetration.

\*\* Econo-A104 can be used with CO2 up to 180-200F for even greater retardation and enhanced fluid recovery.

The information in this bulletin is believed to be accurate, but all recommendations are made without warranty, since the conditions of use are beyond the manufacturer's control. The listed properties are illustrative only, and are not product specifications. The manufacturer disclaims any liability in connection with the use of the information, and does not warrant against infringement by reason of the use of any of its products in combination with other materials or in any process.



P.O. Box 450246  
 Houston, TX 77245-0246  
 USA Toll free: (800) 231-2066  
 Phone: (713) 723-8416  
 Fax: (713) 723-1845  
 URL: [www.EconomyPolymers.com](http://www.EconomyPolymers.com)  
 E-mail: [economy@economypolymers.com](mailto:economy@economypolymers.com)