



Form 41 Affirmations for ACI-97

Vendor: Liberty Oilfield Services
Operator Number: 10655
Chemical Identifier: ACI-97

Liberty Oilfield Services claims the identity (CAS #) for "Ethoxylated Alcohol" is proprietary.

Affirmation 1:

Liberty Oilfield Services with the confidence from Lubrizol Corp discloses confidential info regarding ACI-97 only when legally required or under a need to know basis including emergencies. Liberty Oilfield Services has an ongoing confidentiality agreement with Lubrizol Corp to maintain the trade secret status of their product. Disclosure of confidential and trade secret information is permitted only after careful consideration and after protective steps have been taken, including execution of confidentiality agreements or utilizing statutory trade secret and confidential business information protections. Such protection allows Lubrizol Corp from being compromised by its competitors and is in accordance with set security procedures.

Affirmation 2:

The CAS # is not required under any such state or federal laws to be disclosed in the public forum.

Affirmation 3:

ACI-97's competitive edge is twofold. The quality of hydraulic fracturing operations performed by Liberty Oilfield Services is among the best within the industry. Quality of chemicals used for such operations is one facet that differentiates Liberty Oilfield Services from its competitors. Lubrizol Corp, the developer of ACI-97, developed the formulation at their expense. The public disclosure of information would not only publicize the identity of the chemical for the disclosed use, but also the processing of the chemical substance. Maintaining secrecy of the chemical component provides protection for the underlying research, development costs, as well as the innovation of the supplier. As such, the superior quality of service and protection for both parties is kept intact through the confidentiality of ACI-97.

Affirmation 4:

Liberty Oilfield Services and Lubrizol Corp believe that reverse engineering ACI-97 with the specified component listed as Trade Secret cannot be done easily. Significant time as well as capital would need to be expended to determine the exact chemical composition. Due to the complex mixture, such analysis would likely result in a degree of uncertainty. Public disclosure of the composition would give competitors the knowledge to bypass the aforementioned analysis. As such, the additional protection protects both parties.



Redacted Product Composition

ACI-97		
Component	CAS #	Percentage
Ethylene glycol	107-21-1	40.00%
Dipropylene glycol, monomethyl ether	34590-94-8	20.00%
Ethoxylated alcohol	Proprietary	10.00%
Formic acid	64-18-6	10.00%
Tar bases, quinoline derivs., benzyl chloride-quaternized	72480-70-7	10.00%
Cinnamaldehyde	104-55-2	10.00%
Isopropyl alcohol	67-63-0	5.00%