



Form 41 Affirmations for CSA-23

Vendor: Liberty Oilfield Services
Operator Number: 10655
Chemical Identifier: CSA-23

Liberty Oilfield Services claims the identity (CAS #) for “Non-Hazardous proprietary salts” is proprietary.

Affirmation 1:

Liberty Oilfield Services with the confidence from On3 Chemistry discloses confidential info regarding CSA-23 only when legally required or under a need to know basis including emergencies. Liberty Oilfield Services has an ongoing confidentiality agreement with On3 Chemistry 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 On3 Chemistry 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:

CSA-23'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. On3 Chemistry, the developer of CSA-23, 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 CSA-23.

Affirmation 4:

Liberty Oilfield Services and On3 Chemistry believe that reverse engineering CSA-23 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

CSA-23		
Component	CAS #	Percentage
Non-Hazardous proprietary salts	Proprietary	30.00%
Calcium Chloride	10043-52-4	10.00%