

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	9/28/2017
Job End Date:	10/16/2017
State:	Texas
County:	Reagan
API Number:	42-383-39943-00-00
Operator Name:	EP Energy
Well Name and Number:	University Central 0802DH
Latitude:	31.17644400
Longitude:	-101.63870900
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	8,022
Total Base Water Volume (gal):	12,783,810
Total Base Non Water Volume:	820,494



Hydraulic Fracturing Fluid Composition:

Trade Name	Supplier	Purpose	Ingredients	Chemical Abstract Service Number (CAS #)	Maximum Ingredient Concentration in Additive (% by mass)**	Maximum Ingredient Concentration in HF Fluid (% by mass)**	Comments
Water	Operator	Base Carrier Fluid	Water	7732-18-5	100.00000	86.22903	
Sand	Multiple Suppliers	Proppants	Silicon Dioxide	14808-60-7	100.00000	13.17009	
15% Hydrochloric Acid	Reagent	Scale Dissolver	Water	7732-18-5	85.00000	0.40155	
			36% Hydrochloric Acid	7647-01-0	15.00000	0.07086	
FR-601	SNF	Friction Reducers	Water	7732-18-5	60.00000	0.03202	
			Isoparaffinic Solvent	64742-47-8	45.00000	0.02402	
			Copolymer of acrylamide and sodium acrylate	25987-30-8	10.00000	0.00534	
			Nonylphenol	9016-45-9	10.00000	0.00534	
			Sorbitan Monooleate	1338-43-8	10.00000	0.00534	
			Poly(oxy-1,2-ethanediyl), a-tridecyl-w-hydroxy-, branched	69011-36-5	3.00000	0.00160	
MCS-376	Ace Completions	Surfactants	Water	7732-18-5	75.00000	0.03012	
			Proprietary	Proprietary	15.00000	0.00602	Proprietary Data

			Ethylene oxide/propylene Oxide co-polymer	9003-11-6	10.00000	0.00402	
			Coconut diethanolamide	68603-42-9	8.00000	0.00321	
			Poly(oxy-01,2-ethanediyl), alpha hexyl-omega-hydroxy-	31726-34-8	5.00000	0.00201	
			Isotridecanol, ethoxylated	9043-30-5	5.00000	0.00201	
			Alcohol	68609-68-7	5.00000	0.00201	
			Solvent Naptha(Petroleum), Heavy	64742-94-5	1.00000	0.00040	
			Diethanolamine	111-42-2	1.00000	0.00040	
Bactron K-139/B-51/BIOC11139W	Nalco Champion	Biocides					
			Isopropanol	67-63-0	60.00000	0.01204	Revised Version 7-15-2016
			Ethylene Glycol	107-21-1	30.00000	0.00602	Revised Version 7-15-2016
			Benzyl-C12-16-alkyldimethyl-Ammonium chloride	68424-85-1	30.00000	0.00602	
			Glutaraldehyde	111-30-8	10.00000	0.00201	
			Ethanol	64-17-5	5.00000	0.00100	
SI-625	ACE Completions	Scale Inhibitors					
			Water	7732-18-5	90.00000	0.00805	
			Diethylenetriamine penta methyphosphoric acid sodium salts	22042-96-2	20.00000	0.00179	
			Potassium hydroxide solution	1310-58-3	2.00000	0.00018	
CS-15	ACE Completions	Clay Control / Stabilizers					
			Choline Chloride	67-48-1	100.00000	0.00295	% is Proprietary
			Water	7732-18-5	100.00000	0.00295	% is Proprietary
			Magnesium Chloride	7791-18-6	100.00000	0.00295	% is Proprietary
FE-4	Finoric LLC	Iron Controller / Reducers					
			Citric Acid Annhydrous	77-92-9	52.00000	0.00112	
			Water	7732-18-5	52.00000	0.00112	
I-123	Finoric LLC	Acid Corrosion Inhibitors					
			Ethylene Glycol	107-21-1	40.00000	0.00033	
			N,N-Dimethylformamide	68-12-2	20.00000	0.00017	
			Ethoxylated Nonylphenol	68412-54-4	10.00000	0.00008	
			Cinnamaldehyde	104-55-2	10.00000	0.00008	
			Tar based, quinoline derived, benzyl chloride-quaternized	72480-70-7	10.00000	0.00008	
			2-Butoxyethanol	111-76-2	10.00000	0.00008	
			1-Decanol	112-30-1	10.00000	0.00008	
			Triethyl Phosphate	78-40-0	2.50000	0.00002	
			Isopropyl Alcohol	67-63-0	2.50000	0.00002	
			1-Octanol	111-87-5	2.50000	0.00002	

Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

* Total Water Volume sources may include fresh water, produced water, and/or recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)