

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/9/2020
Job End Date:	3/22/2020
State:	Texas
County:	Andrews
API Number:	42-003-48102-00-00
Operator Name:	QEP Energy Company
Well Name and Number:	UL 1125 E7 05LM
Latitude:	32.38648700
Longitude:	-102.21212200
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	9,112
Total Base Water Volume (gal):	12,329,223
Total Base Non Water Volume:	0



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
Fresh Water	Halliburton	Base Fluid					
			Water	7732-18-5	100.00000	85.30051	Density = 8.34
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.00523	

SAND-LOCAL, 100M	Halliburton	Proppant					
				Listed Below			
Excelerate LX-5	Halliburton	Viscosifier					
				Listed Below			
SAND-LOCAL, 40/70	Halliburton	Proppant					
				Listed Below			
Legend(TM) LD- 2680	MultiChem	Friction Reducer					
				Listed Below			
HYDROCHLORI C ACID, 22 BAUME	Halliburton	Solvent					
				Listed Below			
PropShield Flowback Control Additive	HEXION	Additive					
				Listed Below			
FE-2A	Halliburton	Additive					
				Listed Below			
FDP-S1296-17	Halliburton	Acid Corrosion Inhibitor					
				Listed Below			
MC B-8614	Halliburton	Biocide					

				Listed Below			
SCALECHEK LP-70	Halliburton	Scale Inhibitor					
				Listed Below			
TRANSCEND-350W	Halliburton	Surfactant					
				Listed Below			
FE-1A ACIDIZING COMPOSITION	Halliburton	Additive					
				Listed Below			

Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.

			Crystalline silica, quartz	14808-60-7	100.00000	14.64738	
			Acrylamide polymer	Proprietary	60.00000	0.01912	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.00956	
			Petroleum distillate	Proprietary	30.00000	0.00956	
			Ethoxylated alcohols	Proprietary	30.00000	0.00319	
			Propylene carbonate	108-32-7	10.00000	0.00319	
			Solvent Naphtha (petroleum), hevy arom.	64742-94-5	20.00000	0.00250	
			Hydrotreated light petroleum distillates	64742-47-8	100.00000	0.00227	
			Naphthalene	91-20-3	5.00000	0.00197	
			Quaternary ammonium compound salts	Proprietary	5.00000	0.00159	
			Sorbitan, (9Z)-9-octadecenoate	8007-43-0	5.00000	0.00159	
			Hydrochloric acid	7647-01-0	30.00000	0.00140	
			Acrylamide polymer	9003-05-8	30.00000	0.00068	
			Ethylene glycol	107-21-1	60.00000	0.00012	

			Quaternary ammonium compounds, benzylbis (hydrogenated tallow alkyl)methyl, salts with bentonite	68153-30-0	5.00000	0.00011	
			Acetic anhydride	108-24-7	100.00000	0.00011	
			Glutaraldehyde	111-30-8	30.00000	0.00011	
			Citric acid	77-92-9	60.00000	0.00008	
			Acetic acid	64-19-7	60.00000	0.00007	
			Telomer	Proprietary	10.00000	0.00002	
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00002	
			Methanol	67-56-1	100.00000	0.00001	
			Ethanol	64-17-5	1.00000	0.00000	
			Sodium polyacrylate	9003-04-7	1.00000	0.00000	
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00000	
			Modified thiourea polymer	Proprietary	30.00000	0.00000	
			Phosphoric acid	7664-38-2	0.10000	0.00000	
			Fatty amine salt	Proprietary	5.00000	0.00000	
			Glycerine	56-81-5	5.00000	0.00000	
			Hexadecene	629-73-2	5.00000	0.00000	
			Propargyl alcohol	107-19-7	5.00000	0.00000	
			Acrylic acid	79-10-7	0.01000	0.00000	
			Ethylene oxide	75-21-8	0.01000	0.00000	

* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

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

*** If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

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)