

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/7/2017
Job End Date:	12/19/2017
State:	Texas
County:	Winkler
API Number:	42-495-33710-00-00
Operator Name:	XTO Energy/ExxonMobil
Well Name and Number:	University Blk 20 1307H
Latitude:	31.72636400
Longitude:	-103.28584700
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	11,878
Total Base Water Volume (gal):	10,381,098
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
Water	XTO Energy/ExxonMobil	Carrier Fluid					
			Water	7732-18-5	100.00000	72.87267	
FR-23	C&J Energy Services	Friction Reducer					
				Listed Below			

BR-2	C&J Energy Services	Gel Breakers					
				Listed Below			
CI-3	C&J Energy Services	Acid Corrosion Inhibitors					
				Listed Below			
HC-10	C&J Energy Services	Bulk Acid					
				Listed Below			
Sand	C&J Energy Services	Proppants - Manufactured - Preferred Sands					
				Listed Below			
PM-1	C&J Energy Services	pH Control Additives					
				Listed Below			
Sand	C&J Energy Services	Sand - Bulk - Texas					
				Listed Below			
GA-7F	C&J Energy Services	Gelling Agents					
				Listed Below			
Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.							
			*Quartz (SiO2)	14808-60-7	98.00000	18.42084	
			Crystalline Silica, quartz	14808-60-7	99.90000	7.87068	
			Water	7732-18-5	90.00000	0.29140	
			Iron Oxide	1309-37-1	1.00000	0.18797	
			Aluminum Oxide	1344-28-1	1.10000	0.08666	

			Water	7732-18-5	47.00000	0.04023	
			Hydrochloric Acid	7647-01-0	10.00000	0.03238	
			Distillates (Petroleum), Hydrotreated Light	64742-47-8	30.00000	0.02568	
			CJENERGY-Hydrocarbon-00013	64742-47-8	60.00000	0.02471	
			Guar Gum	9000-30-0	60.00000	0.02471	
			Titanium Oxide	13463-67-7	0.10000	0.00788	
			Iron Oxide	1309-37-1	0.10000	0.00788	
			Alcohols, C11-14-iso-, C13-rich, ethoxylated	78330-21-9	5.00000	0.00428	
			Proprietary	Proprietary	5.00000	0.00428	
			Alcohols, C12-15, ethoxylated propoxylated	68551-13-3	5.00000	0.00428	
			Proprietary	Proprietary	3.00000	0.00257	
			Bentonite Clay	68953-58-2	5.00000	0.00206	
			Ethoxylated Alcohols	68002-97-1	100.00000	0.00206	
			Ammonium Persulfate	7727-54-0	76.00000	0.00048	
			Ethylene Glycol	107-21-1	40.00000	0.00027	
			Water	7732-18-5	30.00000	0.00020	
			Cured Resin	Proprietary	24.00000	0.00015	
			Dimethylformamide	68-12-2	20.00000	0.00014	
			Cinnamaldehyde	104-55-2	15.00000	0.00010	
			2-Butoxyethanol	111-76-2	15.00000	0.00010	
			Tar bases, quinoline derivs, benzyl chloride-quaternized	72480-70-7	15.00000	0.00010	
			Acetic Acid	64-19-7	70.00000	0.00009	
			Acrylamide as residual	79-06-1	0.10000	0.00009	
			Water	7732-18-5	50.00000	0.00007	
			1-DECANOL	112-30-1	5.00000	0.00003	
			Poly(oxy-1,2-ethanediyl),alpha-(4-nonylphenyl)-omega hydroxy-, branched	127087-87-0	5.00000	0.00003	

			Triethyl Phosphate	78-40-0	2.50000	0.00002	
			Isopropanol	67-63-0	2.50000	0.00002	
			1-OCTANOL	111-87-5	2.50000	0.00002	
			Tar Bases, Quinoline Derivs.	68513-87-1	1.00000	0.00001	
			Proprietary	Proprietary	100.00000	0.00000	
			Castor Oil	8001-79-4			

* 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)