

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/2/2017
Job End Date:	5/2/2017
State:	Texas
County:	Andrews
API Number:	42-003-47445-00-00
Operator Name:	XTO Energy/ExxonMobil
Well Name and Number:	Fullerton Clearfork Unit 7324
Latitude:	32.40908000
Longitude:	-102.80506100
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	7,550
Total Base Water Volume (gal):	330,269
Total Base Non Water Volume:	30,301



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	83.95871	
SLC,SDC,TLC,THS,PowerProp,OptiProp,Spe arProp,CoolSet	Sanrol Proppants	Proppants					
			Crystalline Silica(Quartz)	14808-60-7	98.00000	9.04033	
			Phenol-formaldehyde Novolak Resin	9003-35-4	5.00000	0.46124	
Sand	Multiple Suppliers	Proppants					
			Silicon Dioxide	14808-60-7	100.00000	3.91744	
15% Hydrochloric Acid	Reagent	Scale Dissolver					
			Water	7732-18-5	85.00000	1.62586	
			36% Hydrochloric Acid	7647-01-0	15.00000	0.28692	
SG-15G	ACE Completions	Gelling Agents					
			Petroleum Distillate	64742-47-8	60.00000	0.27686	
			Guar Gum	9000-30-0	50.00000	0.23072	
			Surfactant	Proprietary	10.00000	0.04614	CAS # Proprietary
			Bentonite Clay	Proprietary	10.00000	0.04614	CAS # is Proprietary
Gypton T-249	Nalco Champion	Scale Inhibitors					

			Amine Phosphonate 1	Proprietary	60.00000	0.09981	CAS # is Proprietary
			Hydrochloric Acid	7647-01-0	10.00000	0.01664	
			Phosphoric Acid	7664-38-2	1.00000	0.00166	
BF-200	Ace Completions	Buffers / Ph Control					
			Water	7732-18-5	80.00000	0.07124	% is unlisted
			Potassium Hydroxide	1310-58-3	35.00000	0.03117	
MCS-376	Ace Completions	Surfactants					
			Water	7732-18-5	75.00000	0.04538	
			Proprietary	Proprietary	15.00000	0.00908	Proprietary Data
			Ethylene oxide/propylene Oxide co-polymer	9003-11-6	10.00000	0.00605	
			Coconut diethanolamide	68603-42-9	8.00000	0.00484	
			Poly(oxy-01,2-ethanediyl), alpha hexyl-omega-hydroxy-	31726-34-8	5.00000	0.00303	
			Alcohol	68609-68-7	5.00000	0.00303	
			Isotridecanol, ethoxylated	9043-30-5	5.00000	0.00303	
			Solvent Naptha(Petroleum), Heavy	64742-94-5	1.00000	0.00061	
			Diethanolamine	111-42-2	1.00000	0.00061	
CX-14G	Magnablend	Crosslinkers					
			Ulexite	1319-33-1	50.00000	0.03283	
			Petroleum Distillates, hydrotreated light	64742-47-8	40.00000	0.02627	
GB-150	Chemplex/Solvay	Gel Breakers/Delayed Breakers					
			Water	7732-18-5	90.00000	0.04580	Proprietary Not Listed on SDS
			Sodium Chloride	7647-14-5	15.00000	0.00763	Proprietary Not Listed on SDS
			Ethylene Glycol	107-21-1	5.00000	0.00254	Proprietary Not Listed on SDS
			Mannanase Enzymes	37288-54-3	1.00000	0.00051	Proprietary Not Listed on SDS
PAS-C	Rockwater Energy Solutions	Solvents					
			Glacial Acetic Acid	64-19-7	100.00000	0.00485	% Confidential used 100
			Isopropanol	67-63-0	100.00000	0.00485	% Confidential used 100
			Alkyl Aryl Sulfonate	26264-05-1	100.00000	0.00485	% Confidential used 100
			Ethylene Glycol monbutyl Ether	111-76-2	100.00000	0.00485	% Confidential used 100
			Dodecylbenzene Sulfonic Acid	27176-87-0	100.00000	0.00485	% Confidential used 100
NE-217	PIP	Non and De-Emulsifiers					
			Water	7732-18-5	91.00000	0.00870	
			Mixture of surfactants and copolymers	Proprietary	40.00000	0.00383	CAS # is Proprietary
			Propylene Glycol	57-55-6	10.00000	0.00096	
FE-360	Chemplex/Solvay	Iron Controller / Reducers					
			2-Mercaptoethanol	60-24-2	100.00000	0.00979	
			Water	7732-18-5	7.00000	0.00069	
			Aqua Ammonia	1336-21-6	5.00000	0.00049	
			Cupric Chloride Dihydrate	10125-13-0	5.00000	0.00049	

			Potassium Iodide	7681-11-0	1.00000	0.00010	
Bactron K-139	Nalco Champion	Biocides					
			Benzyl-C12-16-alkyldimethyl-Ammonium chloride	68424-85-1	30.00000	0.00636	
			Glutaraldehyde	111-30-8	10.00000	0.00212	
			Ethanol	64-17-5	5.00000	0.00106	
EMS-44 Plus	Flotek Chemistry	Surfactants					
			Denatured Ethyl Alcohol	64-17-5	30.00000	0.00253	
			Citrus Terpenes	68647-72-3	30.00000	0.00253	
			Isopropyl Alcohol	67-63-0	30.00000	0.00253	
			Methyl Alcohol	67-56-1	5.00000	0.00042	
			Methylisobutyl Ketone	108-10-1	0.50000	0.00004	
GB-2	Multiple Suppliers	Gel Breakers/Delayed Breakers					
			Ammonium Persulfate	7727-54-0	100.00000	0.00518	
CX-10	Rockwater Energy Solutions	Crosslinkers					
			Proprietary Inorganic Borates	Proprietary	10.00000	0.00314	Components and CAS # are proprietary
I-123	Finoric LLC	Acid Corrosion Inhibitors					
			Ethylene Glycol	107-21-1	40.00000	0.00075	
			N,N-Dimethylformamide	68-12-2	20.00000	0.00038	
			2-Butoxyethanol	111-76-2	10.00000	0.00019	
			1-Decanol	112-30-1	10.00000	0.00019	
			Ethoxylated Nonylphenol	68412-54-4	10.00000	0.00019	
			Tar based, quinoline derived, benzyl chloride-quaternized	72480-70-7	10.00000	0.00019	
			Cinnamaldehyde	104-55-2	10.00000	0.00019	
			Triethyl Phosphate	78-40-0	2.50000	0.00005	
			Isopropyl Alcohol	67-63-0	2.50000	0.00005	
			1-Octanol	111-87-5	2.50000	0.00005	

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)