

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/27/2016
Job End Date:	12/28/2016
State:	Texas
County:	Terrell
API Number:	42-443-31351-00-00
Operator Name:	MLC Operating, LP
Well Name and Number:	University Lands 3716 #16E
Latitude:	30.59217500
Longitude:	-102.11908300
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	11,067
Total Base Water Volume (gal):	399,394
Total Base Non Water Volume:	35,096



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	81.88949	
Carbo EconoProp	Carbo Ceramics, Inc.	Proppants	Mullite	1302-93-8	85.00000	14.65492	
			Silicon Dioxide,(amorphous as glass)	7631-86-9	35.00000	6.03438	
			Silica Crystalline-Cristobalite	14464-46-1	20.00000	3.44822	
SG-15G	ACE Completions	Gelling Agents	Petroleum Distillate	64742-47-8	60.00000	0.36677	
			Guar Gum	9000-30-0	50.00000	0.30564	
			Bentonite Clay	Proprietary	10.00000	0.06113	CAS # is Proprietary
			Surfactant	Proprietary	10.00000	0.06113	CAS # Proprietary
XL-335	Finoric LLC	Crosslinkers	Water	7732-18-5	75.00000	0.07936	
			Sodium Hydroxide	1310-73-2	40.00000	0.04233	
			Sodium Borate or Sodium Teraborate Borates, Tera, Sodium Salts	1303-96-4	30.00000	0.03175	CAS NO.(Decahydrate)
MCS-376	Ace Completions	Surfactants					

			Water	7732-18-5	75.00000	0.06243	
			Proprietary	Proprietary	15.00000	0.01249	Proprietary Data
			Ethylene oxide/propylene Oxide co-polymer	9003-11-6	10.00000	0.00832	
			Coconut diethanolamide	68603-42-9	8.00000	0.00666	
			Isotridecanol, ethoxylated	9043-30-5	5.00000	0.00416	
			Alcohol	68609-68-7	5.00000	0.00416	
			Poly(oxy-01,2-ethanediyl), alpha hexyl-omega-hydroxy-	31726-34-8	5.00000	0.00416	
			Diethanolamine	111-42-2	1.00000	0.00083	
			Solvent Naptha(Petroleum), Heavy	64742-94-5	1.00000	0.00083	
GB-150	Chemplex/Solvay	Gel Breakers/Delayed Breakers					
			Water	7732-18-5	90.00000	0.04060	Proprietary Not Listed on SDS
			Sodium Chloride	7647-14-5	15.00000	0.00677	Proprietary Not Listed on SDS
			Ethylene Glycol	107-21-1	5.00000	0.00226	Proprietary Not Listed on SDS
			Mannanase Enzymes	37288-54-3	1.00000	0.00045	Proprietary Not Listed on SDS
B-15	Multiple Suppliers	Iron Controller / Reducers					
			Water	7732-18-5	80.00000	0.01377	
			Tetrakis (hydroxymethyl) phosphonium sulfate	55566-30-8	20.00000	0.00344	
EGB-16HT	Finoric LLC	Gel Breakers/Delayed Breakers					
			Ammonium Persulfate	7727-54-0	90.00000	0.00608	
			Non-Haz Ingredients	Proprietary	30.00000	0.00203	Proprietary

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)