

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/29/2017
Job End Date:	4/7/2017
State:	Texas
County:	Winkler
API Number:	42-495-33773-00-00
Operator Name:	MEWBOURNE OIL COMPANY
Well Name and Number:	UNIVERSITY B21 7 W101AP
Latitude:	31.75177200
Longitude:	-103.26782800
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	12,099
Total Base Water Volume (gal):	13,077,429
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	Operator	Base Fluid					
			Water	7732-18-5	100.00000	89.30889	Density = 8.330
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.22629	

SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676)	Halliburton	Proppant					
				Listed Below			
HCL <10%	Halliburton	Solvent					
				Listed Below			
FDP-S1231-16	Halliburton	Surfactant					
				Listed Below			
FDP-S1176-15	Halliburton	Friction Reducer					
				Listed Below			
SAND- PREMIUM WHITE-40/70, BULK	Halliburton	Proppant					
				Listed Below			
CLA-STA FS ADDITIVE	Halliburton	Clay Stabilizer					
				Listed Below			
HAI-OS ACID INHIBITOR	Halliburton	Corrosion Inhibitor					
				Listed Below			
OptiKleen-WF (TM)	Halliburton	Concentrate					
				Listed Below			

BE-9W	Halliburton	Biocide					
				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	10.36293	
			Hydrotreated light petroleum distillate	Proprietary	30.00000	0.04273	
			Polyacrylate	Proprietary	30.00000	0.03053	
			Polyquaternary amine salt	Proprietary	60.00000	0.01355	
			Propylene glycol	57-55-6	60.00000	0.01354	
			Hydrochloric acid	7647-01-0	10.00000	0.01291	
			Ethoxylated alcohols	Proprietary	30.00000	0.01226	
			Isopropanol	67-63-0	30.00000	0.01220	
			Ethoxylated fatty acids	Proprietary	30.00000	0.01220	
			Fatty Nitrogen derived amides	Proprietary	30.00000	0.01220	
			Ammonium chloride	12125-02-9	30.00000	0.01186	
			Sodium perborate tetrahydrate	10486-00-7	100.00000	0.01127	
			Castor oil, ethoxylated	61791-12-6	5.00000	0.00509	
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	5.00000	0.00509	
			9-Octadecenamide, n,n-bis-2(hydroxy-ethyl)-,(Z)	93-83-4	5.00000	0.00509	
			Sodium chloride	7647-14-5	5.00000	0.00509	
			Butyl alcohol	71-36-3	10.00000	0.00407	
			Tributyl tetradecyl phosphonium chloride	81741-28-8	10.00000	0.00226	
			Bis-quaternary methacrylamide monomer	Proprietary	5.00000	0.00113	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Methanol	67-56-1	60.00000	0.00012	

			Reaction product of acetophenone, formaldehyde, thiourea and oleic acid in dimethyl formamide	68527-49-1	30.00000	0.00006	
			Fatty acids, tall oil	Proprietary	30.00000	0.00006	
			Olefins	Proprietary	5.00000	0.00002	
			Propargyl alcohol	107-19-7	10.00000	0.00002	

* 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)