

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/23/2018
Job End Date:	3/24/2018
State:	Texas
County:	Winkler
API Number:	42-495-33990-00-00
Operator Name:	MEWBOURNE OIL COMPANY
Well Name and Number:	UNIVERSITY B21 5 W101PA
Latitude:	31.75657200
Longitude:	-103.25396600
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	12,150
Total Base Water Volume (gal):	13,282,030
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	88.98362	Density = 8.400
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.30219	

DCA-32003	Halliburton	Wetting Agent					
				Listed Below			
FIGHTR EC-2	Halliburton	Friction Reducer					
				Listed Below			
OptiKleen-WF (TM)	Halliburton	Concentrate					
				Listed Below			
SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676)	Halliburton	Proppant					
				Listed Below			
MC B-8614	Halliburton	Biocide					
				Listed Below			
HCL >10%	Halliburton	Solvent					
				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	10.62288	
			Hydrochloric acid	7647-01-0	30.00000	0.05788	
			Methanol	67-56-1	100.00000	0.04104	
			Copolymer of acrylamide and sodium acrylate	25085-02-3	30.00000	0.03281	
			Hydrotreated light petroleum distillate	Proprietary	30.00000	0.03281	

			Sodium perborate tetrahydrate	10486-00-7	100.00000	0.01246	
			Glutaraldehyde	111-30-8	30.00000	0.01132	
			Ethoxyalted alcohols	Proprietary	5.00000	0.00547	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Ethoxylated sorbitan monostearate	9005-67-8	5.00000	0.00547	
			Alkylbenzene sulfonate compd. with 2-propanamine	68584-25-8	10.00000	0.00410	
			Alkylbenzene sulfonate compd. with triethanolamine	68584-24-7	10.00000	0.00410	
			Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl chlorides	68424-85-1	5.00000	0.00189	
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	1.00000	0.00109	
			Hydroxyacetic acid	79-14-1	1.00000	0.00109	
			Benzene, C10-16 alkyl derivatives	68648-87-3	1.00000	0.00041	
			Ethanol	64-17-5	1.00000	0.00038	
			Phosphoric acid	7664-38-2	0.10000	0.00004	

* 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)