

## Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	1/29/2018
Job End Date:	2/10/2018
State:	Texas
County:	Winkler
API Number:	42-495-34008-00-00
Operator Name:	Oasis Petroleum
Well Name and Number:	UL 21 BIGHORN 4H
Latitude:	31.69664900
Longitude:	-103.24572700
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	11,375
Total Base Water Volume (gal):	25,849,155
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	90.79434	Density = 8.340
Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.43143	

SAND-COMMON WHITE-100 MESH, SSA-2, BULK (100003676)	Halliburton	Proppant					
				Listed Below			
OptiKleen-WF (TM)	Halliburton	Concentrate					
				Listed Below			
LP-65 MC	Halliburton	Scale Inhibitor					
				Listed Below			
MC B-8510	Multichem	Biocide					
				Listed Below			
WG-36 GELLING AGENT	Halliburton	Gelling Agent					
				Listed Below			
HYDROCHLORI C ACID	Halliburton	Solvent					
				Listed Below			
FIGHTR EC-2	Halliburton	Friction Reducer					
				Listed Below			
SAND- PREMIUM WHITE-40/70, BULK	Halliburton	Proppant					
				Listed Below			

EXCELERATE LX-3	Halliburton	Friction Reducer					
				Listed Below			
StimOil E51	Flotek	Surfactant					
				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	8.55272	
			Hydrochloric acid	7647-01-0	60.00000	0.20826	
			Dipropylene Glycol Methyl Ether	34590-94-8	30.00000	0.04052	
			Hydrotreated light petroleum distillate	Proprietary	30.00000	0.03561	
			Copolymer of acrylamide and sodium acrylate	25085-02-3	30.00000	0.03561	
			Organic phosphonate	Proprietary	60.00000	0.01299	
			Hydrocarbon Ester	CAS Not Assigned	7.00000	0.00946	
			Citrus Terpenes	68647-72-3	7.00000	0.00946	
			2,2 Dibromo-3-nitrilopropionamide	10222-01-2	30.00000	0.00735	
			Ammonium chloride	12125-02-9	30.00000	0.00651	
			Ethoxylated sorbitan monostearate	9005-67-8	5.00000	0.00593	
			Ethoxyalted alcohols	Proprietary	5.00000	0.00593	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Guar gum	9000-30-0	100.00000	0.00303	
			Sodium perborate tetrahydrate	10486-00-7	100.00000	0.00266	
			2-Monobromo-3-nitrilopropionamide	1113-55-9	5.00000	0.00123	
			Dibromoacetoneitrile	3252-43-5	5.00000	0.00123	

			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8	1.00000	0.00119	
			Hydroxyacetic acid	79-14-1	1.00000	0.00119	
			Diammonium phosphate	7783-28-0	5.00000	0.00108	
			2,2-Dibromomalonamide	73003-80-2	1.00000	0.00025	
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.00006	
			Polyacrylate	Proprietary	30.00000	0.00006	
			Fatty acid ester	Proprietary	5.00000	0.00002	
			Sodium Chloride	7647-14-5	5.00000	0.00001	
			Ethoxylated fatty acid	Proprietary	5.00000	0.00001	

\* 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)