

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	10/28/2013
Job End Date:	10/30/2013
State:	Oklahoma
County:	Dewey
API Number:	35-043-23335-00-00
Operator Name:	MEWBOURNE OIL COMPANY
Well Name and Number:	Basler 29-2HC
Longitude:	-99.34496700
Latitude:	35.84082500
Datum:	NAD83
Federal/Tribal Well:	NO
True Vertical Depth:	9,800
Total Base Water Volume (gal):	3,080,599
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					
			Fresh Water	7732-18-5	100.00000	90.54243	Density = 8.330
SAND - PREMIUM WHITE	Halliburton	Proppant					
			Crystalline silica, quartz	14808-60-7	100.00000	8.98978	
LGC-36 UC	Halliburton	Liquid Gel Concentrate					
			Naphtha, hydrotreated heavy	64742-48-9	60.00000	0.06920	
			Guar gum	9000-30-0	60.00000	0.06920	
LoSurf-300D	Halliburton	Non-ionic Surfactant					
			Ethanol	64-17-5	60.00000	0.04903	
			Heavy aromatic petroleum naphtha	64742-94-5	30.00000	0.02452	
			Naphthalene	91-20-3	5.00000	0.00409	
			Poly(oxy-1,2-ethanediyl), alpha-(4-nonylphenyl)-omega-hydroxy-, branched	127087-87-0	5.00000	0.00409	
			1,2,4 Trimethylbenzene	95-63-6	1.00000	0.00082	
Cla-Web™	Halliburton	Additive					
			Ammonium salt	Confidential	60.00000	0.05973	
BC-200 UC	Halliburton	Crosslinker					
			Modified alkane	Confidential	60.00000	0.03881	

FR-66	Halliburton	Friction Reducer					
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.01673	
CL-31 CROSSLINKER	Halliburton	Crosslinker					
			Potassium metaborate	13709-94-9	60.00000	0.00993	
			Potassium hydroxide	1310-58-3	5.00000	0.00083	
SP BREAKER	Halliburton	Breaker					
			Sodium persulfate	7775-27-1	100.00000	0.00388	
GBW-30 BREAKER	Halliburton	Breaker					
			Carbohydrates	Confidential	100.00000	0.00247	
			Hemicellulase enzyme	9012-54-8	30.00000	0.00074	
OptiKleen-WFT™	Halliburton	Concentrate					
			Sodium perborate tetrahydrate	10486-00-7	100.00000	0.00252	
BE-9W	Halliburton	Biocide					
			Tributyl tetradecyl phosphonium chloride	81741-28-8	10.00000	0.00221	
OPTIFLO-III DELAYED RELEASE BREAKER	Halliburton	Breaker					
			Ammonium persulfate	7727-54-0	100.00000	0.00159	
			Crystalline silica, quartz	14808-60-7	30.00000	0.00048	
OPTIFLO-II DELAYED RELEASE BREAKER	Halliburton	Breaker					
			Ammonium persulfate	7727-54-0	100.00000	0.00159	
			Crystalline silica, quartz	14808-60-7	10.00000	0.00016	
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.							
		Other Ingredient(s)					
			Water	7732-18-5		0.12526	
		Other Ingredient(s)					
			Borate salts	Confidential		0.03881	
		Other Ingredient(s)					
			Oxyalkylated phenolic resin	Confidential		0.02452	
		Other Ingredient(s)					
			Sodium carbonate	497-19-8		0.01940	
		Other Ingredient(s)					
			Polyacrylamide copolymer	Confidential		0.01673	
		Other Ingredient(s)					
			Propylene glycol	57-55-6		0.01393	
		Other Ingredient(s)					
			Oxyalkylated phenolic resin	Confidential		0.00817	
		Other Ingredient(s)					
			Sodium chloride	7647-14-5		0.00777	
		Other Ingredient(s)					
			Quaternary ammonium compounds, bis(hydrogenated tallow alkyl) dimethyl, salts with bentonite	68953-58-2		0.00577	
		Other Ingredient(s)					

			Quaternary amine	Confidential		0.00498	
		Other Ingredient(s)					
			Modified bentonite	Confidential		0.00323	
		Other Ingredient(s)					
			Fatty acid tall oil amide	Confidential		0.00279	
		Other Ingredient(s)					
			Alcohols, C12-16, ethoxylated	68551-12-2		0.00279	
		Other Ingredient(s)					
			Ammonium chloride	12125-02-9		0.00279	
		Other Ingredient(s)					
			Fatty alcohol polyglycol ether surfactant	9043-30-5		0.00115	
		Other Ingredient(s)					
			Quaternary amine	Confidential		0.00100	
		Other Ingredient(s)					
			Cured acrylic resin	Confidential		0.00095	
		Other Ingredient(s)					
			Propylene carbonate	108-32-7		0.00065	
		Other Ingredient(s)					
			2-Ethyl hexanol	104-76-7		0.00065	
		Other Ingredient(s)					
			Organic salt	Confidential		0.00065	
		Other Ingredient(s)					
			Sorbitan monooleate polyoxyethylene derivative	9005-65-6		0.00056	
		Other Ingredient(s)					
			Sorbitan, mono-9-octadecenoate, (Z)	1338-43-8		0.00056	
		Other Ingredient(s)					
			Crystalline silica, quartz	14808-60-7		0.00018	
		Other Ingredient(s)					
			Amine salts	Confidential		0.00010	
		Other Ingredient(s)					
			Amine salts	Confidential		0.00010	
		Other Ingredient(s)					
			Quaternary amine	Confidential		0.00010	
		Other Ingredient(s)					
			Methanol	67-56-1		0.00006	
		Other Ingredient(s)					
			Butyl alcohol	71-36-3		0.00006	
		Other Ingredient(s)					
			Sodium sulfate	7757-82-6		0.00000	

* 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)

