Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	10/1/2015
Job End Date:	10/1/2015
State:	Texas
County:	Andrews
API Number:	42-003-47198-00-00
Operator Name:	ConocoPhillips Company/Burlington Resources
Well Name and Number:	UNIVERSITY UA 5
Longitude:	-102.73867000
Latitude:	32.14529000
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	8,794
Total Base Water Volume (gal):	117,866
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	86.85024	Density = 8.340
MURIATIC ACID	Halliburton	Base Fluid					
			NA	NA			
N-Zyme 3	Halliburton	Breaker					
			NA	NA			
Scalechek(R) SCP-2 Scale Inhibitor, WG-36 GELLING AGENT	Halliburton	NA					
			NA	NA			

ALDACIDE(R) G ANTIMICROBIAL, BC-140 X2, BE-6 MICROBIOCIDE, HAI-OS ACID INHIBITOR, LOSURF-360W, OPTIFLO-HTE, PROP-CERAMIC-30/50, BULK (101297495), SAND-COMMON WHITE-100 MESH, SSA-2, 100 LB SACK (100002158), SAND-PREMIUM WHITE-40/70, BULK,	Halliburton	Biocide, Breaker, Corrosion Inhibitor, Gelling Agent, Initiator, Microbiocide, Proppant, Scale Preventer, Surfactant					
			NA	NA			
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.							
		Hazardous and Non-Hazardous Ingredients					
			Crystalline silica, quartz	14808-60-7	100.00000	5.64496	
			Mullite	1302-93-8	100.00000	5.44780	
			Aluminum Silicate	1302-76-7	100.00000	5.44780	
			Water	7732-18-5	100.00000	1.76524	
			Crystalline silica, cristobalite	14464-46-1	30.00000	1.63434	
			Silica, amorphous - fumed	7631-86-9	30.00000	1.63434	
			Hydrochloric acid	7647-01-0	60.00000	0.94996	
			Guar gum	9000-30-0	100.00000	0.21584	
			Monoethanolamine borate	26038-87-9	100.00000	0.07989	
			Poly(oxy-1,2-ethanediyl), .alpha.-isodecyl-.omega.-hydroxy-	61827-42-7	30.00000	0.02927	
			Ethylene glycol	107-21-1	30.00000	0.02397	
			Glutaraldehyde	111-30-8	30.00000	0.01734	
			Bentonite, benzyl(hydrogenated tallow alkyl) dimethylammonium stearate complex	121888-68-4	5.00000	0.01079	
			Glycerine	56-81-5	10.00000	0.00976	
			Walnut hulls	NA	100.00000	0.00928	
			Glassy calcium magnesium phosphate	65997-17-3	100.00000	0.00884	
			Complex alkylamine	Confidential	5.00000	0.00488	
			Surfactant mixture	Confidential	1.00000	0.00432	
			Methanol	67-56-1	60.00000	0.00372	
			Cured acrylic resin	Confidential	30.00000	0.00288	
			Silica gel	112926-00-8	1.00000	0.00216	
			2-Bromo-2-nitro-1,3-propanediol	52-51-7	100.00000	0.00186	
			Alcohols, C14-C15, ethoxylated	68951-67-7	30.00000	0.00157	
			Reaction product of acetophenone, formaldehyde, thiourea and oleic acid in dimethyl formamide	68527-49-1	30.00000	0.00157	
			Fatty acids, tall oil	Confidential	30.00000	0.00157	

			Alkane	Confidential	1.00000	0.00098	Denise Tuck, Halliburton, 3000 N. Sam Houston Pkwy E., Houston, TX 77032, 281-871-6226
			Olefins	Confidential	5.00000	0.00063	
			Propargyl alcohol	107-19-7	10.00000	0.00052	
			Enzyme	Confidential	5.00000	0.00046	
			Crystalline Silica, Quartz	14808-60-7	0.10000	0.00022	
			C.I. Pigment Red 5	6410-41-9	1.00000	0.00009	
			Glycerol	56-81-5	38.00000	0.00008	
			2,7-Naphthalenedisulfonic acid, 3-hydroxy-4-[(4-sulfor-1-naphthalenyl) azo] -, trisodium salt	915-67-3	0.10000	0.00008	
			Sodium glycollate	2836-32-0	0.01000	0.00001	
			Sodium bicarbonate	144-55-8	0.01000	0.00001	
			Sodium hydroxide	1310-73-2	0.01000	0.00001	
			Hydrogen peroxide	7722-84-1	0.01000	0.00001	
			Nitrotriacetic acid, trisodium salt monohydrate	5064-31-3	0.01000	0.00001	
			Ethylenediaminetetraacetic acid, tetrasodium salt	64-02-8	0.01000	0.00001	
			Cellulase	9012-54-8	3.00000	0.00001	

* 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)