Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date	12/27/2012
State:	California
County:	Kern County
API Number:	0403045928
Operator Name:	Occidental of Elk Hills,
	Inc.
Well Name and Number:	25NH-34R
Longitude:	-119.498067
Latitude:	35.27461
Long/Lat Projection:	NAD83
Production Type:	Oil
True Vertical Depth (TVD):	3,879
Total Water Volume (gal)*:	137,415

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
Produced Water (Oxy Provided), YF122- Flex	Schlumberge r	Activator , Surfactant , Breaker, Breaker Aid, Gelling Agent, Crosslinker, Clay Control Agent, Industrial Antimicrobial, Emulsion Preventer, Fluid Loss Additive , Propping Agent	Water (Including Mix Water Supplied by Client)*	-		75.71774%	
			Crystalline silica	14808-60-7	96.67709%	23.47538%	
			Phenolic resin	9003-35-4	4.78526%	1.16197%	
			Propan-2-ol	67-63-0	1.00625%	0.24434%	
			Carbohydrate polymer	Proprietary	0.98491%	0.23916%	
			Oxyalkylated Alcohol (2)	Proprietary	0.90735%	0.22033%	
			2,2`,2"-nitrilotriethanol	102-71-6	0.35651%	0.08657%	
			Aliphatic polyol	Proprietary	0.30415%	0.07385%	
			Diammonium peroxidisulphate	7727-54-0	0.20903%	0.05076%	
			Potassium hydroxide	1310-58-3	0.13559%	0.03293%	
			Zirconium dichloride oxide	7699-43-6	0.08197%	0.01990%	
			Polyethylene glycol monohexyl ether	31726-34-8	0.08099%	0.01967%	
			Aliphatic co-polymer	Proprietary	0.04778%	0.01160%	
			Alkylalcohol ethoxylated	Proprietary	0.01648%	0.00400%	
			Dioctyl sulfosuccinate sodium salt	Proprietary	0.01648%	0.00400%	
			Oxyalkylated Alcohol (1)	Proprietary	0.01648%	0.00400%	
			Tetrakis(hydroxymethyl)phosphonium sulfate	55566-30-8	0.00880%	0.00214%	
			Non-crystalline silica	7631-86-9	0.00880%	0.00214%	
			Methanol	67-56-1	0.00680%	0.00165%	

^{*} Total Water Volume sources may include fresh water, produced water, and/or recycled water

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)

^{**} Information is based on the maximum potential for concentration and thus the total may be over 100%