

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date:	1/12/2013
State:	California
County:	Kern County
API Number:	0403049242
Operator Name:	Occidental of Elk Hills, Inc.
Well Name and Number:	74-19R
Longitude:	-119.5371042
Latitude:	35.30588694
Long/Lat Projection:	NAD83
Production Type:	Oil
True Vertical Depth (TVD):	2,783
Total Water Volume (gal)*:	12,212

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	Schlumberger	Activator , Surfactant , Breaker, Breaker Aid, Gelling Agent, Crosslinker, Clay Control Agent, Industrial Antimicrobial, Emulsion Preventer, Propping Agent	Water (Including Mix Water Supplied by Client)*	-		70.79544%	
			Crystalline silica	14808-60-7	97.97831%	28.61413%	
			Phenolic resin	9003-35-4	4.89892%	1.43071%	
			Propan-2-ol	67-63-0	0.60808%	0.17759%	
			Oxyalkylated Alcohol (2)	Proprietary	0.55040%	0.16074%	
			Carbohydrate polymer	Proprietary	0.48215%	0.14081%	
			2,2',2"-nitritotriethanol	102-71-6	0.31191%	0.09109%	
			Aliphatic polyol	Proprietary	0.20113%	0.05874%	
			Diammonium peroxidisulphate	7727-54-0	0.12826%	0.03746%	
			Potassium hydroxide	1310-58-3	0.09095%	0.02656%	
			Zirconium dichloride oxide	7699-43-6	0.07968%	0.02327%	
			Polyethylene glycol monohexyl ether	31726-34-8	0.05669%	0.01656%	
			Aliphatic co-polymer	Proprietary	0.02565%	0.00749%	
			Tetrakis(hydroxymethyl)phosphonium sulfate	55566-30-8	0.01710%	0.00499%	
			Non-crystalline silica	7631-86-9	0.01710%	0.00499%	
			Oxyalkylated Alcohol (1)	Proprietary	0.00961%	0.00281%	
			Alkylalcohol ethoxylated	Proprietary	0.00961%	0.00281%	
			Diocetyl sulfosuccinate sodium salt	Proprietary	0.00961%	0.00281%	

* 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%

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