

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date	1/19/2013
State:	California
County:	Kern County
API Number:	0403025116
Operator Name:	Occidental of Elk Hills, Inc.
Well Name and Number:	65N-24Z
Longitude:	-119.561311
Latitude:	35.30318042
Long/Lat Projection:	NAD83
Production Type:	Oil
True Vertical Depth (TVD):	3,238
Total Water Volume (gal)*:	60,389

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, Propping Agent	Water (Including Mix Water Supplied by Client)*	-		72.30168%	
			Crystalline silica	14808-60-7	97.76064%	27.07805%	
			Phenolic resin	9003-35-4	4.88803%	1.35390%	
			Propan-2-ol	67-63-0	0.71179%	0.19715%	
			Carbohydrate polymer	Proprietary	0.68795%	0.19055%	
			Oxyalkylated Alcohol (2)	Proprietary	0.63390%	0.17558%	
			Aliphatic polyol	Proprietary	0.27398%	0.07589%	
			Potassium hydroxide	1310-58-3	0.12401%	0.03435%	
			Diammonium peroxidisulphate	7727-54-0	0.11380%	0.03152%	
			Polyethylene glycol monohexyl ether	31726-34-8	0.06846%	0.01896%	
			2,2',2"-nitrilotriethanol	102-71-6	0.05337%	0.01478%	
			Zirconium dichloride oxide	7699-43-6	0.03644%	0.01009%	
			Alkylalcohol ethoxylated	Proprietary	0.01298%	0.00360%	
			Oxyalkylated Alcohol (1)	Proprietary	0.01298%	0.00360%	
			Diocetyl sulfosuccinate sodium salt	Proprietary	0.01298%	0.00360%	
			Aliphatic co-polymer	Proprietary	0.01138%	0.00315%	
			Non-crystalline silica	7631-86-9	0.00745%	0.00206%	
			Tetrakis(hydroxymethyl)phosphonium sulfate	55566-30-8	0.00745%	0.00206%	

* 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)