

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date:	4/19/2012
State:	California
County/Parish	Kern County
API Number:	0403047084
Operator Name:	Occidental of Elk Hills, Inc.
Well Name and Number:	6-7A-36B
Longitude:	-119.453996
Latitude:	35.184428
Long/Lat Projection:	NAD83
Production Type:	Oil
True Vertical Depth (TVD):	3,079
Total Water Volume (gal)*:	35,294

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
YF125ST	Schlumberger	Surfactant , Breaker, Crosslinker, Gelling Agent, Clay Control Agent, Bactericide, Demulsifier, Propping Agent	Water (Including Mix Water Supplied by Client)*	-		61.42130%	
			Crystalline silica	14808-60-7	99.18899%	38.26583%	
			Guar gum	9000-30-0	0.36204%	0.13967%	
			1, 2, 3 - Propanetriol	56-81-5	0.09473%	0.03655%	
			Methanol	67-56-1	0.08826%	0.03405%	
			Diammonium peroxidisulphate	7727-54-0	0.07730%	0.02982%	
			Sodium tetraborate decahydrate	1303-96-4	0.05684%	0.02193%	
			Decyl-dimethyl amine	2605-79-0	0.03778%	0.01457%	

			oxide				
			Alcohol, C9-11-iso, C10, ethoxylated	78330-20-8	0.01415%	0.00546%	
			Alcohol, C7-9-iso, C8, ethoxylated	78330-19-5	0.01415%	0.00546%	
			Vinylidene chloride/methylacrylate copolymer	25038-72-6	0.01130%	0.00436%	
			Ethoxylated propoxylated 4-nonylphenol-formaldehyde resin	30846-35-6	0.01058%	0.00408%	
			Non-crystalline silica	7631-86-9	0.00747%	0.00288%	
			Cationic polymer	Proprietary	0.00731%	0.00282%	
			Heavy aromatic naphtha	64742-94-5	0.00714%	0.00276%	
			Quaternary ammonium compounds chlorides derivatives	68989-00-4	0.00700%	0.00270%	
			Alcohol, C11-14, ethoxylated	78330-21-9	0.00700%	0.00270%	
			Tetrakis(hydroxymethyl)phosphonium sulfate	55566-30-8	0.00649%	0.00250%	
			Poly(oxy-1,2-ethanediyl)	25322-68-3	0.00314%	0.00121%	
			Naphtalene (impurity)	91-20-3	0.00143%	0.00055%	
			Decyldimethyl amine (impurity)	1120-24-7	0.00060%	0.00023%	
			Magnesium silicate hydrate (talc)	14807-96-6	0.00059%	0.00023%	
			Hydrogen peroxide (impurity)	7722-84-1	0.00036%	0.00014%	

* 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%

Report ID: RPT-3742 (Generated on 5/11/2012 4:27 PM)

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