

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date:	4/6/2012
State:	California
County/Parish	Kern County
API Number:	0403047060
Operator Name:	Occidental of Elk Hills, Inc.
Well Name and Number:	7-2-35B
Longitude:	-119.469928
Latitude:	35.192929
Long/Lat Projection:	NAD83
Production Type:	Oil
True Vertical Depth (TVD):	2,945
Total Water Volume (gal)*:	95,857

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)*	-		60.61077%	
			Crystalline silica	14808-60-7	99.19697%	39.07292%	
			Guar gum	9000-30-0	0.35438%	0.13959%	
			1, 2, 3 - Propanetriol	56-81-5	0.09439%	0.03718%	
			Methanol	67-56-1	0.09108%	0.03587%	
			Diammonium peroxidisulphate	7727-54-0	0.07194%	0.02834%	
			Sodium tetraborate decahydrate	1303-96-4	0.05663%	0.02231%	
			Decyl-dimethyl amine	2605-79-0	0.04013%	0.01581%	

			oxide				
			Alcohol, C7-9-iso, C8, ethoxylated	78330-19-5	0.01454%	0.00573%	
			Alcohol, C9-11-iso, C10, ethoxylated	78330-20-8	0.01454%	0.00573%	
			Vinylidene chloride/methylacrylate copolymer	25038-72-6	0.01206%	0.00475%	
			Ethoxylated propoxylated 4-nonylphenol-formaldehyde resin	30846-35-6	0.01087%	0.00428%	
			Cationic polymer	Proprietary	0.00780%	0.00307%	
			Heavy aromatic naphtha	64742-94-5	0.00734%	0.00289%	
			Alcohol, C11-14, ethoxylated	78330-21-9	0.00720%	0.00284%	
			Quaternary ammonium compounds chlorides derivatives	68989-00-4	0.00720%	0.00284%	
			Non-crystalline silica	7631-86-9	0.00616%	0.00243%	
			Tetrakis(hydroxymethyl)phosphonium sulfate	55566-30-8	0.00519%	0.00205%	
			Poly(oxy-1,2-ethanediyl)	25322-68-3	0.00323%	0.00127%	
			Naphthalene (impurity)	91-20-3	0.00147%	0.00058%	
			Decyldimethyl amine (impurity)	1120-24-7	0.00064%	0.00025%	
			Magnesium silicate hydrate (talc)	14807-96-6	0.00063%	0.00025%	
			Hydrogen peroxide (impurity)	7722-84-1	0.00039%	0.00015%	

* 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-3737 (Generated on 5/11/2012 4:07 PM)

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