

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date:	3/31/2012
State:	California
County/Parish	Kern County
API Number:	0403046701
Operator Name:	Occidental of Elk Hills, Inc.
Well Name and Number:	7-3-35B
Longitude:	-119.470044
Latitude:	35.190774
Long/Lat Projection:	NAD83
Production Type:	Oil
True Vertical Depth (TVD):	3,136
Total Water Volume (gal)*:	132,993

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)*	-		63.43388%	
			Crystalline silica	14808-60-7	99.04879%	36.21830%	
			Guar gum	9000-30-0	0.45933%	0.16796%	
			Methanol	67-56-1	0.09702%	0.03548%	
			1, 2, 3 - Propanetriol	56-81-5	0.09496%	0.03472%	
			Diammonium peroxidisulphate	7727-54-0	0.09284%	0.03395%	
			Sodium tetraborate decahydrate	1303-96-4	0.05698%	0.02083%	
			Decyl-dimethyl amine	2605-79-0	0.04582%	0.01675%	

			oxide				
			Vinylidene chloride/methylacrylate copolymer	25038-72-6	0.01797%	0.00657%	
			Alcohol, C9-11-iso, C10, ethoxylated	78330-20-8	0.01591%	0.00582%	
			Alcohol, C7-9-iso, C8, ethoxylated	78330-19-5	0.01591%	0.00582%	
			Ethoxylated propoxylated 4-nonylphenol-formaldehyde resin	30846-35-6	0.01189%	0.00435%	
			Heavy aromatic naphtha	64742-94-5	0.00803%	0.00294%	
			Quaternary ammonium compounds chlorides derivatives	68989-00-4	0.00787%	0.00288%	
			Alcohol, C11-14, ethoxylated	78330-21-9	0.00787%	0.00288%	
			Cationic polymer	Proprietary	0.00634%	0.00232%	
			Non-crystalline silica	7631-86-9	0.00594%	0.00217%	
			Tetrakis(hydroxymethyl)phosphonium sulfate	55566-30-8	0.00469%	0.00171%	
			Poly(oxy-1,2-ethanediyl)	25322-68-3	0.00354%	0.00129%	
			Naphtalene (impurity)	91-20-3	0.00161%	0.00059%	
			Magnesium silicate hydrate (talc)	14807-96-6	0.00094%	0.00035%	
			Decyldimethyl amine (impurity)	1120-24-7	0.00073%	0.00027%	
			Hydrogen peroxide (impurity)	7722-84-1	0.00044%	0.00016%	

* 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%

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