

Hydraulic Fracturing Fluid Product Component Information Disclosure

Last Fracture Date	02/19/2012
State:	California
County:	Los Angeles Offshore
API Number:	04-237-23691
Operator Name:	OXY LONG BEACH INC
Well Name and Number:	C-648
Longitude:	-118.139783
Latitude:	33.739643
Long/Lat Projection:	NAD27
Production Type:	Oil
True Vertical Depth (TVD):	6,008
Total Water Volume (gal)*:	132,384

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
Water	Operator	Carrier	Water	7732-18-5	100.00%	79.37593%	
Superset-W, 330 gl tote	Baker Hughes	Activator	Methanol	67-56-1	50.00%	0.09440%	
			Poly (Oxyethylene) Nonylphenol Ether	9016-45-9	50.00%	0.09440%	
X-Cide 207	Baker Hughes	Biocide	2-Methyl-4-Isothiazolin-3-One	2682-20-4	5.00%	0.00016%	
			5-Chloro-2-Methyl-4-Isothiazolin-3-One	26172-55-4	10.00%	0.00032%	
			Crystalline Silica: Cristobalite	14464-46-1	1.00%	0.00003%	
			Crystalline Silica: Quartz (SiO2)	14808-60-7	1.00%	0.00003%	
			Diatomaceous Earth, Calcined	91053-39-3	60.00%	0.00190%	
			Magnesium Chloride	7786-30-3	5.00%	0.00016%	
			Magnesium Nitrate	10377-60-3	10.00%	0.00032%	
GBW-5	Baker Hughes	Breaker	Ammonium Persulfate	7727-54-0	100.00%	0.00683%	SmartCare Product
Enzyme G-I	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.00680%	SmartCare Product
			Water	7732-18-5	97.00%	0.21996%	
BC-3	Baker Hughes	Breaker Catalyst	No Hazardous Ingredients	Trade Secret	100.00%	0.01767%	
BF-7L, Tote	Baker Hughes	Buffer	Potassium Carbonate	584-08-7	60.00%	0.11344%	SmartCare Product
			Potassium Hydroxide	1310-58-3	1.00%	0.00189%	
			Water	7732-18-5	60.00%	0.11344%	

XLW-56, 330 gal tote	Baker Hughes	Crosslinker	D-Glucitol	50-70-4	10.00%	0.02704%	
			Glyoxal	107-22-2	30.00%	0.08112%	
			Sodium Hydroxide	1310-73-2	5.00%	0.01352%	
			Sodium Tetraborate	1330-43-4	10.00%	0.02704%	
XLW-32, 260 gal tote	Baker Hughes	Crosslinker	Boric Acid (H3BO3)	10043-35-3	30.00%	0.00261%	
			Methanol	67-56-1	60.00%	0.00521%	
			Methyl Borate	121-43-7	30.00%	0.00261%	
GW-3LDF	Baker Hughes	Gelling Agent	Acyclic Hydrocarbon Blend	Trade Secret	60.00%	0.36543%	SmartCare Product
			Alcohols, C12-14, Ethoxylated Propoxylated	68439-51-0	5.00%	0.03045%	
			Crystalline Silica, Quartz	14808-60-7	5.00%	0.03045%	
			Guar Gum	9000-30-0	60.00%	0.36543%	
Super LC, 16/30	Baker Hughes	Proppant	Hexamethylenetetramine	1009-7-0	0.01%	0.00183%	
			P/F Resin	9003-35-4	5.00%	0.91429%	
			Silicon Dioxide (Silica Sand)	14808-60-7	97.00%	17.73723%	
GasFlo G, 330 gal tote	Baker Hughes	Surfactant	Methanol	67-56-1	30.00%	0.04470%	SmartCare Product
			Mixture of Surfactants	Trade Secret	60.00%	0.08940%	
			Water	7732-18-5	50.00%	0.07450%	

Ingredients shown above are subject to 29 CFR 1910.1200(i) and appear on Material Safety Data Sheets (MSDS). Ingredients shown below are Non-MSDS.

			Acetyl Triethyl Citrate	77-89-4		0.0176687981%	
			Isotridecanol, Ethoxylated (TDA-6)	9043-30-5		0.0304527885%	
			Isotridecanol, Ethoxylated (TDA-9)	9043-30-5		0.0304527885%	
			Quaternary Ammonium Compounds bis[Hydrogenated Tallow Alkyl] Dimethyl Salts With Bentonite	68953-58-2		0.0304527885%	
			Water	7732-18-5		0.0304527885%	

* 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)