

Hydraulic Fracturing Fluid Product Component Information Disclosure

Last Fracture Date	05/19/2012
State:	California
County:	Kern
API Number:	04-030-43714
Operator Name:	Vintage Prod Of Cal
Well Name and Number:	Bent 13-24W
Longitude:	-119.65923
Latitude:	35.38689
Long/Lat Projection:	NAD27
Production Type:	Oil
True Vertical Depth (TVD):	6,782
Total Water Volume (gal)*:	177,198

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%	81.97771%	
HCl, 10.1 - 15%	Baker Hughes	Acidizing	Hydrochloric Acid	7647-01-0	15.00%	0.21725%	
			Water	7732-18-5	85.00%	1.23106%	
12% HCl - 3% HF (ABF30)	Baker Hughes	Acidizing	Hydrochloric Acid	7647-01-0	12.00%	0.33316%	
			Hydrofluoric Acid	7664-39-3	3.00%	0.08329%	
One Shot Acid Plus	Baker Hughes	Acidizing	Ethylbenzene	100-41-4	8.00%	0.11543%	
			Hydrochloric Acid (15% solution)	7647-01-0	90.00%	1.29853%	
			Xylene	1330-20-7	30.00%	0.43284%	
Alpha 125	Baker Hughes	Biocide	Glutaraldehyde	111-30-8	30.00%	0.00513%	SmartCare Product
GBW-5	Baker Hughes	Breaker	Ammonium Persulfate	7727-54-0	100.00%	0.00388%	SmartCare Product
Enzyme G-I	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.00208%	SmartCare Product
			Water	7732-18-5	97.00%	0.06731%	
BF-7L	Baker Hughes	Buffer	Potassium Carbonate	584-08-7	60.00%	0.08587%	SmartCare Product
			Potassium Hydroxide	1310-58-3	1.00%	0.00143%	
			Water	7732-18-5	60.00%	0.08587%	
Clay Master-5C (Tote)	Baker Hughes	Clay Control	Oxyakylated Amine Quat	138879-94-4	60.00%	0.11430%	
CI-27	Baker Hughes	Corrosion Inhibitor	Fatty Acids	Trade Secret	30.00%	0.00717%	SmartCare Product
			Methanol	67-56-1	60.00%	0.01434%	

			Olefin	Trade Secret	5.00%	0.00120%	
			Polyoxyalkylenes	Trade Secret	30.00%	0.00717%	
			Propargyl Alcohol	107-19-7	10.00%	0.00239%	
XLW-32, 260 gal tote	Baker Hughes	Crosslinker	Boric Acid (H3BO3)	10043-35-3	30.00%	0.01822%	
			Methanol	67-56-1	60.00%	0.03645%	
			Methyl Borate	121-43-7	30.00%	0.01822%	
GW-3LDF	Baker Hughes	Gelling Agent	1-Butoxy-2-Propanol	5131-66-8	5.00%	0.02437%	SmartCare Product
			Cyrstalline Silica, Quartz (SiO2)	14808-60-7	5.00%	0.02437%	
			Guar Gum	9000-30-0	60.00%	0.29248%	
			Isotridecanol, ethoxylated	9043-30-5	5.00%	0.02437%	
			Paraffinic Petroleum Distillate	64742-55-8	30.00%	0.14624%	
			Petroleum Distillates	64742-47-8	30.00%	0.14624%	
Ferrotrol 300L (Totes)	Baker Hughes	Iron Control	Citric Acid	77-92-9	60.00%	0.02798%	SmartCare Product
Ferrotrol 210	Baker Hughes	Iron Control	Erythorbic Acid	89-65-6	100.00%	0.01121%	SmartCare Product
NE-118, 55 gal drum	Baker Hughes	Non-emulsifier	1,2,4-Trimethylbenzene	95-63-6	5.00%	0.00034%	
			Isopropanol	67-63-0	100.00%	0.00676%	
			Light Aromatic Naphtha	64742-95-6	5.00%	0.00034%	
			Polyoxyalkylenes	Trade Secret	5.00%	0.00034%	
Sand, White, 30/50	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	6.66057%	
Super LC, 30/50	Baker Hughes	Proppant	Hexamethylenetetramine	1009-7-0	0.01%	0.00059%	
			P/F Resin	9003-35-4	5.00%	0.29458%	
			Silicon Dioxide (Silica Sand)	14808-60-7	97.00%	5.71479%	
Ammonium Chloride, bulk	Baker Hughes	Salts	Ammonium Chloride	12125-02-9	100.00%	0.11097%	
Xylene	Baker Hughes	Solvent	Ethylbenzene	100-41-4	30.00%	0.03625%	
			Xylene	1330-20-7	100.00%	0.12082%	
GasFlo G, 330 gal tote	Baker Hughes	Surfactant	Methanol	67-56-1	30.00%	0.03449%	SmartCare Product
			Mixture of Surfactants	Trade Secret	60.00%	0.06898%	
			Water	7732-18-5	50.00%	0.05748%	
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.							
			1,2,3 - Trimethylbenzene	526-73-8		0.0000270548%	
			1,3,5 - Trimethylbenzene	108-67-8		0.0000541096%	
			2-Butoxy-1-Propanol	15821-83-7		0.0003899690%	
			Alkylaryl Sulfonate	68584-27-0		0.0000135274%	
			Cumene	98-82-8		0.0000067637%	
			Formaldehyde	50-00-0		0.0001195398%	
			Methanol	67-56-1		0.0000427473%	
			Modified Thiourea Polymer	68527-49-1		0.0026298765%	
			Naphthalene	91-20-3		0.0000006764%	
			Potassium Hydroxide	1310-58-3		0.0000033819%	
			Sodium Chloride	7647-14-5		0.0001195398%	
			Water	7732-18-5		0.0317195032%	

			Xylene	1330-20-7		0.0000135274%	
<p>* Total Water Volume sources may include fresh water, produced water, and/or recycled water</p> <p>** Information is based on the maximum potential for concentration and thus the total may be over 100%</p> <p>Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)</p>							