

Hydraulic Fracturing Fluid Product Component Information Disclosure

Last Fracture Date	01/15/2012
State:	California
County:	Kern
API Number:	04-030-43344
Operator Name:	Vintage Prod Of Cal
Well Name and Number:	Brown Unit 28-7H
Longitude:	-119.28655
Latitude:	35.55063
Long/Lat Projection:	NAD27
Production Type:	Oil
True Vertical Depth (TVD):	7,786
Total Water Volume (gal)*:	396,942

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%	72.48507%	
Alpha 125, 263 gl tote	Baker Hughes	Biocide	Glutaraldehyde	111-30-8	30.00%	0.00312%	SmartCare Product
Enzyme G-I	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.00365%	SmartCare Product
			Water	7732-18-5	97.00%	0.11815%	
BC-3	Baker Hughes	Breaker Catalyst	No Hazardous Ingredients	Trade Secret	100.00%	0.02339%	
BF-7L, Tote	Baker Hughes	Buffer	Potassium Carbonate	584-08-7	60.00%	0.23332%	SmartCare Product
			Potassium Hydroxide	1310-58-3	1.00%	0.00389%	
			Water	7732-18-5	60.00%	0.23332%	
XLW-56, 330 gal tote	Baker Hughes	Crosslinker	D-Glucitol	50-70-4	10.00%	0.02080%	
			Glyoxal	107-22-2	30.00%	0.06240%	
			Sodium Hydroxide	1310-73-2	5.00%	0.01040%	
			Sodium Tetraborate	1330-43-4	10.00%	0.02080%	
BioSealers	Baker Hughes	Degradable Sealers	Gelatin	9000-70-8	100.00%	0.00110%	
			Glutaraldehyde	111-30-8	1.00%	0.00001%	
GLFC-1B	Baker Hughes	Gelling Agent	Alkanes / Alkenes	Multiple	45.00%	0.28819%	
			Guar Gum	9000-30-0	50.00%	0.32021%	
Sand, White, 20/40	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	20.51539%	
Sand, White, 100 mesh	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	0.19711%	

Atlas CRC-E, 20/40 mesh	Baker Hughes	Proppant	Crystalline Silica Quartz	14808-60-7	98.00%	4.89985%	
			Hexamethylenetetramine	100-97-0	1.00%	0.05000%	
			Phenolic Resin	9003-35-4	5.00%	0.24999%	
GasFlo G, 330 gal tote	Baker Hughes	Surfactant	Methanol	67-56-1	30.00%	0.04286%	SmartCare Product
			Surfactants	Trade Secret	60.00%	0.08573%	
			Water	7732-18-5	70.00%	0.10001%	
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		0.0233873118%	
			Crystalline Silica	14808-60-7			
			Ethylene Glycol Monobutyl Ether	111-76-2			
			Methanol	67-56-1		0.0000260327%	
			Methyl salicylate	119-36-8			
			Poly (oxy-1,2-ethanediyl)	24938-91-8			
			Quaternary Ammonium Compounds bis[Hydrogenated Tallow Alkyl] Dimethyl Salts With Bentonite	68953-58-2			
			Sodium Bicarbonate	144-55-8			
			Water	7732-18-5		0.0078098128%	
<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>							