

Hydraulic Fracturing Fluid Product Component Information Disclosure

Last Fracture Date	04/07/2012
State:	California
County:	Kern
API Number:	04-030-46397
Operator Name:	Vintage Prod Of Cal
Well Name and Number:	Tulare 33-5H
Longitude:	-119.27706
Latitude:	35.54275
Long/Lat Projection:	NAD27
Production Type:	Oil
True Vertical Depth (TVD):	8,080
Total Water Volume (gal)*:	283,878

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%	75.15764%	
Alpha 125, 263 gal tote	Baker Hughes	Biocide	Glutaraldehyde	111-30-8	30.00%	0.00696%	SmartCare Product
Enzyme G-I	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.00518%	SmartCare Product
			Water	7732-18-5	97.00%	0.16744%	
XLW-56, 330 gal tote	Baker Hughes	Crosslinker	D-Glucitol	50-70-4	10.00%	0.02198%	
			Glyoxal	107-22-2	30.00%	0.06594%	
			Sodium Hydroxide	1310-73-2	5.00%	0.01099%	
			Sodium Tetraborate	1330-43-4	10.00%	0.02198%	
GLFC-1B	Baker Hughes	Gelling Agent	Alkanes / Alkenes	Multiple	45.00%	0.35156%	
			Guar Gum	9000-30-0	50.00%	0.39063%	
Sand, White, 20/40	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	19.81728%	
Sand, White, 100 mesh	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	0.47630%	
Super LC, 20/40	Baker Hughes	Proppant	Hexamethylenetetramine	1009-7-0	0.01%	0.00032%	
			P/F Resin	9003-35-4	5.00%	0.15905%	
			Silicon Dioxide (Silica Sand)	14808-60-7	97.00%	3.08562%	
GasFlo G, 330 gal tote	Baker Hughes	Surfactant	Methanol	67-56-1	30.00%	0.05221%	SmartCare Product
			Mixture of Surfactants	Trade Secret	60.00%	0.10442%	
			Water	7732-18-5	50.00%	0.08702%	

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.

			Crystalline Silica	14808-60-7			
			Ethylene Glycol Monobutyl Ether	111-76-2			
			Methanol	67-56-1		0.0000580128%	
			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		0.0174038303%	

* 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)