

Hydraulic Fracturing Fluid Product Component Information Disclosure

Last Fracture Date	03/23/2012
State:	California
County:	Kern
API Number:	04-030-44093
Operator Name:	Vintage Prod Of Cal
Well Name and Number:	Mongoose 11-30X
Longitude:	-119.65353
Latitude:	35.37417
Long/Lat Projection:	NAD27
Production Type:	Oil
True Vertical Depth (TVD):	8,100
Total Water Volume (gal)*:	191,478

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%	83.74184%	
HCl, 10.1 - 15%	Baker Hughes	Acidizing	Hydrochloric Acid	7647-01-0	15.00%	0.20537%	
			Water	7732-18-5	85.00%	1.16377%	
12% HCl - 3% HF (ABF30)	Baker Hughes	Acidizing	Hydrochloric Acid	7647-01-0	12.00%	0.31495%	
			Hydrofluoric Acid	7664-39-3	3.00%	0.07874%	
One Shot Acid Plus	Baker Hughes	Acidizing	Ethylbenzene	100-41-4	8.00%	0.10912%	
			Hydrochloric Acid (15% solution)	7647-01-0	90.00%	1.22755%	
			Xylene	1330-20-7	30.00%	0.40918%	
Alpha 125, 263 gl tote	Baker Hughes	Biocide	Glutaraldehyde	111-30-8	30.00%	0.00693%	SmartCare Product
Enzyme G-I	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.00453%	SmartCare Product
			Water	7732-18-5	97.00%	0.14636%	
BC-3	Baker Hughes	Breaker Catalyst	No Hazardous Ingredients	Trade Secret	100.00%	0.02280%	
BF-7L, Tote	Baker Hughes	Buffer	Potassium Carbonate	584-08-7	60.00%	0.24744%	SmartCare Product
			Potassium Hydroxide	1310-58-3	1.00%	0.00412%	
			Water	7732-18-5	60.00%	0.24744%	
Clay Master-5C (Tote)	Baker Hughes	Clay Control	Oxyakylated Amine Quat	138879-94-4	60.00%	0.00495%	

CI-27 (260 gal tote)	Baker Hughes	Corrosion Inhibitor	Fatty Acids	Trade Secret	30.00%	0.00678%	SmartCare Product
			Methanol	67-56-1	60.00%	0.01356%	
			Olefin	Trade Secret	5.00%	0.00113%	
			Polyoxyalkylenes	Trade Secret	30.00%	0.00678%	
			Propargyl Alcohol	107-19-7	10.00%	0.00226%	
XLW-56, 330 gal tote	Baker Hughes	Crosslinker	D-Glucitol	50-70-4	10.00%	0.01778%	
			Glyoxal	107-22-2	30.00%	0.05335%	
			Sodium Hydroxide	1310-73-2	5.00%	0.00889%	
			Sodium Tetraborate	1330-43-4	10.00%	0.01778%	
GLFC-1B	Baker Hughes	Gelling Agent	Alkanes / Alkenes	Multiple	45.00%	0.24733%	
			Guar Gum	9000-30-0	50.00%	0.27481%	
Ferrotrol 300L (Totes)	Baker Hughes	Iron Control	Citric Acid	77-92-9	60.00%	0.02645%	SmartCare Product
Ferrotrol 210	Baker Hughes	Iron Control	Erythorbic Acid	89-65-6	100.00%	0.01060%	SmartCare Product
Sand, White, 30/50	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	5.14566%	
Sand, White, 100 mesh	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	0.15736%	
Prime Plus, 30/50	Baker Hughes	Proppant	Quartz (SiO2)	14808-60-7	100.00%	5.50444%	
Ammonium Chloride, bulk	Baker Hughes	Salts	Ammonium Chloride	12125-02-9	100.00%	0.10491%	
Xylene	Baker Hughes	Solvent	Ethylbenzene	100-41-4	30.00%	0.03426%	
			Xylene	1330-20-7	100.00%	0.11421%	
GasFlo G, 330 gal tote	Baker Hughes	Surfactant	Methanol	67-56-1	30.00%	0.05481%	SmartCare Product
			Mixture of Surfactants	Trade Secret	60.00%	0.10963%	
			Water	7732-18-5	50.00%	0.09136%	
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		0.0228014136%	
			Crystalline Silica	14808-60-7			
			Ethylene Glycol Monobutyl Ether	111-76-2			
			Formaldehyde	50-00-0		0.0001130054%	
			Methanol	67-56-1		0.0000577295%	
			Modified Thiourea Polymer	68527-49-1		0.0024861195%	
			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			
			Sodium Chloride	7647-14-5		0.0001130054%	
			Water	7732-18-5		0.0351812735%	

* 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)