

Hydraulic Fracturing Fluid Product Component Information Disclosure

Last Fracture Date	06/13/2012
State:	California
County:	Kern
API Number:	04-030-46100
Operator Name:	Vintage Prod Of Cal
Well Name and Number:	Bent 14-24W
Longitude:	-119.65968
Latitude:	35.38437
Long/Lat Projection:	NAD27
Production Type:	Oil
True Vertical Depth (TVD):	8,950
Total Water Volume (gal)*:	495,432

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%	81.25379%	
HCl, 10.1 - 15%	Baker Hughes	Acidizing	Hydrochloric Acid	7647-01-0	15.00%	0.83142%	
			Water	7732-18-5	85.00%	4.71138%	
12% HCl - 3% HF (ABF30)	Baker Hughes	Acidizing	Hydrochloric Acid	7647-01-0	12.00%	1.55902%	
			Hydrofluoric Acid	7664-39-3	3.00%	0.38976%	
One Shot Acid Plus	Baker Hughes	Acidizing	Ethylbenzene	100-41-4	8.00%	0.08184%	
			Hydrochloric Acid (15% solution)	7647-01-0	90.00%	0.92067%	
			Xylene	1330-20-7	30.00%	0.30689%	
X-Cide 207	Baker Hughes	Biocide	2-Methyl-4-Isothiazolin-3-One	2682-20-4	5.00%	0.00014%	
			5-Chloro-2-Methyl-4-Isothiazolin-3-One	26172-55-4	10.00%	0.00028%	
			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%	0.00170%	
			Magnesium Chloride	7786-30-3	5.00%	0.00014%	
			Magnesium Nitrate	10377-60-3	10.00%	0.00028%	
Alpha 125	Baker Hughes	Biocide	Glutaraldehyde	111-30-8	30.00%	0.00364%	SmartCare Product
GBW-5	Baker Hughes	Breaker	Ammonium Persulfate	7727-54-0	100.00%	0.00138%	SmartCare Product

Enzyme G-I	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.00353%	SmartCare Product
			Water	7732-18-5	97.00%	0.11422%	
High Perm CRB	Baker Hughes	Breaker	Ammonium Persulphate	7727-54-0	60.00%	0.00118%	SmartCare Product
			Crystalline Silica Quartz	14808-60-7	30.00%	0.00059%	
Soda Ash	Baker Hughes	Buffer	Sodium Carbonate	497-19-8	100.00%	0.11015%	
BF-7L	Baker Hughes	Buffer	Potassium Carbonate	584-08-7	60.00%	0.16397%	SmartCare Product
			Potassium Hydroxide	1310-58-3	1.00%	0.00273%	
			Water	7732-18-5	60.00%	0.16397%	
Clay Master-5C (Tote)	Baker Hughes	Clay Control	Oxyakylated Amine Quat	138879-94-4	60.00%	0.09590%	
CI-27	Baker Hughes	Corrosion Inhibitor	Fatty Acids	Trade Secret	30.00%	0.02464%	SmartCare Product
			Methanol	67-56-1	60.00%	0.04927%	
			Olefin	Trade Secret	5.00%	0.00411%	
			Polyoxyalkylenes	Trade Secret	30.00%	0.02464%	
			Propargyl Alcohol	107-19-7	10.00%	0.00821%	
CI-27 (260 gal tote)	Baker Hughes	Corrosion Inhibitor	Fatty Acids	Trade Secret	30.00%	0.00509%	SmartCare Product
			Methanol	67-56-1	60.00%	0.01017%	
			Olefin	Trade Secret	5.00%	0.00085%	
			Polyoxyalkylenes	Trade Secret	30.00%	0.00509%	
			Propargyl Alcohol	107-19-7	10.00%	0.00170%	
XLW-56, 330 gal tote	Baker Hughes	Crosslinker	D-Glucitol	50-70-4	10.00%	0.01443%	
			Glyoxal	107-22-2	30.00%	0.04329%	
			Sodium Hydroxide	1310-73-2	5.00%	0.00721%	
			Sodium Tetraborate	1330-43-4	10.00%	0.01443%	
FRW-18	Baker Hughes	Friction Reducer	Petroleum Distillates	64742-47-8	30.00%	0.00574%	SmartCare Product
FRW-16A (Pail)	Baker Hughes	Friction Reducer	Non-Hazardous Ingredient	Trade Secret	100.00%	0.01157%	SmartCare Product
GW-3LDF	Baker Hughes	Gelling Agent	1-Butoxy-2-Propanol	5131-66-8	5.00%	0.02250%	SmartCare Product
			Cyrstalline Silica, Quartz (SiO2)	14808-60-7	5.00%	0.02250%	
			Guar Gum	9000-30-0	60.00%	0.26994%	
			Isotridecanol, ethoxylated	9043-30-5	5.00%	0.02250%	
			Paraffinic Petroleum Distillate	64742-55-8	30.00%	0.13497%	
			Petroleum Distillates	64742-47-8	30.00%	0.13497%	
Hy Temp O Intensifier	Baker Hughes	Intensifier	Formic Acid	64-18-6	98.00%	0.10803%	SmartCare Product
Ferrotrol 300L (Totes)	Baker Hughes	Iron Control	Citric Acid	77-92-9	60.00%	0.11681%	SmartCare Product
Ferrotrol 210	Baker Hughes	Iron Control	Erythorbic Acid	89-65-6	100.00%	0.03301%	SmartCare Product
NE-118, 55 gal drum	Baker Hughes	Non-emulsifier	1,2,4-Trimethylbenzene	95-63-6	5.00%	0.00195%	

			Isopropanol	67-63-0	100.00%	0.03893%	
			Light Aromatic Naphtha	64742-95-6	5.00%	0.00195%	
			Polyoxyalkylenes	Trade Secret	5.00%	0.00195%	
Sand, White, 30/50	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	2.83959%	
Sand, White, 40/70	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	1.88204%	
Super LC, 30/50	Baker Hughes	Proppant	Hexamethylenetetramine	1009-7-0	0.01%	0.00025%	
			P/F Resin	9003-35-4	5.00%	0.12697%	
			Silicon Dioxide (Silica Sand)	14808-60-7	97.00%	2.46324%	
Ammonium Chloride	Baker Hughes	Salts	Ammonium Chloride	12125-02-9	100.00%	0.02557%	
Ammonium Chloride, bulk	Baker Hughes	Salts	Ammonium Chloride	12125-02-9	100.00%	0.31036%	
Xylene	Baker Hughes	Solvent	Ethylbenzene	100-41-4	30.00%	0.02570%	
			Xylene	1330-20-7	100.00%	0.08566%	
GasFlo G, 330 gal tote	Baker Hughes	Surfactant	Methanol	67-56-1	30.00%	0.05577%	SmartCare Product
			Mixture of Surfactants	Trade Secret	60.00%	0.11155%	
			Water	7732-18-5	50.00%	0.09295%	

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		0.0001557138%	
			1,3,5 - Trimethylbenzene	108-67-8		0.0003114277%	
			2-Butoxy-1-Propanol	15821-83-7		0.0003599216%	
			Alkylaryl Sulfonate	68584-27-0		0.0000778569%	
			Cumene	98-82-8		0.0000389285%	
			Cured Acrylic Resin	Trade Secret		0.0005901051%	
			Ethoxylated Alcohol	Trade Secret		0.0003824446%	
			Formaldehyde	50-00-0		0.0004953783%	
			Methanol	67-56-1		0.0000303058%	
			Modified Thiourea Polymer	68527-49-1		0.0108983232%	
			Naphthalene	91-20-3		0.0000038928%	
			Poly (acrylamide-co-acrylic acid)	Trade Secret		0.0057366696%	
			Potassium Hydroxide	1310-58-3		0.0000194642%	
			Salt	Trade Secret		0.0009561116%	
			Sodium Chloride	7647-14-5		0.0004953783%	
			Sorbitan Monooleate	Trade Secret		0.0009561116%	
			Water	7732-18-5		0.0997249500%	
			Xylene	1330-20-7		0.0000778569%	

* 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)