

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date:	12/27/2011
State:	Oklahoma
County:	Grady
API Number:	35-051-22641
Operator Name:	Marathon Oil Company
Well Name and Number:	Mercer For President 1-35
Longitude:	-97.702194
Latitude:	34.68219
Long/Lat Projection:	NAD27
Production Type:	Gas
True Vertical Depth (TVD):	10,405
Total Water Volume (gal)*:	83,244

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%	65.51639%	0
HCl, 10.1 - 15%	Baker Hughes	Acidizing	Hydrochloric Acid	7647-01-0	15.00%	0.13640%	0
0	0	0	Water	7732-18-5	85.00%	0.77294%	0
Superset-U, tote	Baker Hughes	Activator	Denatured Ethanol	64-17-5	45.00%	0.01285%	0
0	0	0	Di (Ethylene Glycol) Ethyl Ether Acetate	112-15-2	55.00%	0.01570%	0
Magnacide 575	Baker Hughes	Biocide	Tetrakis(Hydroxymethyl) Phosphonium Sulfate	55566-30-8	100.00%	0.00431%	SmartCare Product
Enzyme G-I	Baker Hughes	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.00212%	0
0	0	0	Water	7732-18-5	97.00%	0.06847%	0
High Perm CRB	Baker Hughes	Breaker	Ammonium Persulphate	7727-54-0	100.00%	0.00611%	0
0	0	0	Crystalline Silica Quartz	14808-60-7	15.00%	0.00092%	0
GBW-33D	Baker Hughes	Breaker	Calcium Carbonate	471-34-1	7.00%	0.00026%	0
0	0	0	Corn Meal	Trade Secret	83.00%	0.00312%	0
0	0	0	Linseed Meal	8001-26-1	10.00%	0.00038%	0
BF-7L	Baker Hughes	Buffer	Potassium Carbonate	584-08-7	50.00%	0.06755%	SmartCare Product
KCl Free	Baker Hughes	Clay Control	Tetramethyl Ammonium Chloride	75-57-0	60.00%	0.04305%	0
Clay Master-5C	Baker	Clay Control	Oxyakylated Amine Quat	138879-94-4	60.00%	0.00111%	0

	Hughes						
CI-31	Baker Hughes	Corrosion Inhibitor	Aromatic Aldehyde	Trade Secret	30.00%	0.00052%	0
0	0	0	Benzyl Chloride	100-44-7	1.00%	0.00002%	0
0	0	0	Formic Acid	64-18-6	60.00%	0.00103%	0
0	0	0	Haloalkyl Heteropolycycle Salt	Trade Secret	30.00%	0.00052%	0
0	0	0	Isopropanol	67-63-0	5.00%	0.00009%	0
0	0	0	Methanol	67-56-1	5.00%	0.00009%	0
0	0	0	Organic Sulfur Compound	Trade Secret	5.00%	0.00009%	0
0	0	0	Oxyalkylated Fatty Acid	Trade Secret	30.00%	0.00052%	0
0	0	0	Quaternary Ammonium Compound	Trade Secret	5.00%	0.00009%	0
XLW-30AG, tote	Baker Hughes	Crosslinker	Hydrotreated Light Distillate	64742-47-8	70.00%	0.02936%	SmartCare Product
XLW-10A	Baker Hughes	Crosslinker	Ethylene Glycol	107-21-1	40.00%	0.01750%	SmartCare Product
0	0	0	Sodium Hydroxide	1310-73-2	10.00%	0.00438%	0
0	0	0	Sodium Tetraborate	1303-96-4	30.00%	0.01313%	0
XLW-4, 330 gl tote	Baker Hughes	Crosslinker	Sodium Borate Decahydrate	1303-96-4	30.00%	0.01063%	SmartCare Product
FAW-4, 260 gl tote	Baker Hughes	Foamer	Ethylene Glycol Monobutyl Ether	111-76-2	10.00%	0.01059%	0
0	0	0	Isopropanol	67-63-0	20.00%	0.02118%	0
GW-3LF	Baker Hughes	Gelling Agent	Guar Gum	9000-30-0	40.00%	0.24818%	0
0	0	0	Petroleum Distillates Blend	Trade Secret	70.00%	0.43432%	0
AG-12	Baker Hughes	Gelling Agent	Acrylic Polymers	26006-22-4	60.00%	0.00102%	0
0	0	0	Distillates, Petroleum, Hydrotreated Middle	64742-47-8	30.00%	0.00051%	0
0	0	0	Nonylphenol Ethoxylate	64742-46-7	5.00%	0.00008%	0
Ferrotrol 300L	Baker Hughes	Iron Control	Citric Acid	77-92-9	60.00%	0.01186%	0
Ferrotrol 280L	Baker Hughes	Iron Control	Ammonium Hydroxide	1336-21-6	5.00%	0.00027%	0
0	0	0	Cupric Chloride	10125-13-0	5.00%	0.00027%	0
0	0	0	Thioglycol	60-24-2	100.00%	0.00537%	0
Nitrogen	Baker Hughes	Nitrogen	Liquid Nitrogen	7727-37-9	100.00%	14.47603%	0
NE-900, tote	Baker Hughes	Non-emulsifier	Methanol	67-56-1	30.00%	0.00046%	SmartCare Product
0	0	0	Nonyl Phenyl Polyethylene Glycol Ether	9016-45-9	10.00%	0.00015%	0
Sand, White, 20/40	Baker Hughes	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	6.05760%	0
Tempered HS, 20/40	Baker Hughes	Proppant	Hexamethylenetetramine	1009-7-0	0.01%	0.00083%	0
0	0	0	P/F Resin	9003-35-4	5.00%	0.41632%	0
0	0	0	Silicon Dioxide (Silica Sand)	14808-60-7	97.00%	8.07658%	0
Super LC, 20/40	Baker Hughes	Proppant	Hexamethylenetetramine	1009-7-0	0.01%	0.00033%	0
0	0	0	P/F Resin	9003-35-4	5.00%	0.16480%	0

0	0	0	Silicon Dioxide (Silica Sand)	14808-60-7	97.00%	3.19706%	0
Flo-Back Prime (tote)	Baker Hughes	Surfactant	Essential Oils	Trade Secret	100.00%	0.07330%	SmartCare Product
0	0	0	Secondary Alcohol	Trade Secret	100.00%	0.07330%	0
Additional Ingredients							
			Alkene Sulfonate	Trade Secret			
			Boric Anhydride	1303-86-2			
			Citrus Terpenes	94266-47-4			
			Copolymer	Trade Secret			
			Crystalline Silica	14808-60-7			
			Cured Acrylic Resin	Trade Secret			
			Ethylene Glycol Monobutyl Ether	111-76-2			
			Glycerin	56-81-5			
			Inorganic Salt	Trade Secret			
			Isopropanol	67-63-0			
			Mannan Endo-1,4-B-Mannosidase	37288-54-3			
			Organic Polyol	112-27-6			
			Oxyalkylated Ammonium Salt	Trade Secret			
			Oxyalkylated alcohol	68002-97-1			
			Poly (oxy-1,2-ethanediyl)	24938-91-8			
			Quaternary Ammonium Compounds bis[Hydrogenated Tallow Alkyl] Dimethyl Salts With Bentonite	68953-58-2			
			Sodium Acetate	127-09-3			
			Sodium Chloride	7647-14-5			
			Sodium Tetraborate	1330-43-4			
			Sulfate	Trade Secret			
			Surfactants	Trade Secret			
			Water	7732-18-5			

* 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%

All component information listed was obtained from the supplier's Material Safety Data Sheets (MSDS). As such, the Operator is not responsible for inaccurate and/or incomplete information. Any questions regarding the content of the MSDS should be directed to the supplier who provided it. The Occupational Safety and Health Administration's (OSHA) regulations govern the criteria for the disclosure of this information. Please note that Federal Law protects "proprietary", "trade secret", and "confidential business information" and the criteria for how this information is reported on an MSDS is subject to 29 CFR 1910.1200(i) and Appendix D.