

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date	5/3/2011
State:	CO
County:	WELD
API Number:	05-123-12848
Operator Name:	KerrMcGee
Well Name and Number:	ANDERSON-COOMBS 2
Longitude:	-104.727894
Latitude:	40.372119
Long/Lat Projection:	NAD83
Production Type:	Gas
True Vertical Depth (TVD):	7,370
Total Water Volume (gal)*:	124,282

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
Claytreat-4390	Baker Hughes	Clay Stabilization	No MSDS Ingredients		100.00%	0.08704%	
DWP-204-1	Calfrac	pH Adjusting additive	Formic acid	64-18-6	13.00%	0.00546%	
DWP-212-1	Calfrac	Crosslinker	Triethanolamine	102-71-6	5.00%	0.00794%	
			Propyl alcohol	71-23-8	10.00%	0.01588%	
			Methanol	67-56-1	100.00%	0.15876%	
			Alkanolamine chelate of zirconium alkoxide	197980-53-3	10.00%	0.01588%	
DWP-213-1	Calfrac	Buffer	Sodium hydroxide	1310-73-2	7.00%	0.00490%	
DWP-221-1	Calfrac	Gelling Agent	Polysaccharide		60.00%	0.34059%	
			Iso-Alkanes/n-Alkanes		60.00%	0.34059%	
DWP-937-1	Calfrac	Surfactant	Triethylene Glycol	112-27-6	20.00%	0.02268%	
			Isopropanol	67-63-0	20.00%	0.02268%	
			Citrus Terpenes	94266-47-4	60.00%	0.06804%	
DWP-990-1	Calfrac	Gel Breaker	Cured Acrylic Resin		32.00%	0.00290%	
			Ammonium Persulfate	7727-54-0	100.00%	0.00905%	
Frac-cide 1000	Baker Hughes	Biocide	Water	007732-18-5	5.00%	0.00008%	
			2,2-dibromo-3-nitrilopropionamide	010222-01-2	100.00%	0.00160%	
Resin Coated Sand	Calfrac	Propping Agent	P/F Novalak Resin	9003-35-4	5.00%	0.01522%	
			Hexamethylenetetramine	1009-7-0	0.01%	0.00003%	
			Crystalline silica (Quartz)	14808-60-7	97.00%	0.29520%	
Sand (Proppant)	Calfrac	Propping Agent	Crystalline silica (Quartz)	14808-60-7	99.90%	19.85925%	
Water	Anadarko	Base Carrier Fluid	Water		100.00%	78.76702%	

* 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.