

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/14/2013
Job End Date:	2/27/2013
State:	Colorado
County:	Garfield
API Number:	05-045-21032-00-00
Operator Name:	Encana Oil & Gas (USA) Inc.
Well Name and Number:	SG 8509B-21 N22 496
Longitude:	-108.15715600
Latitude:	39.68395800
Datum:	NAD83
Federal/Tribal Well:	YES
Total Base Water Volume (gal):	10,618,440
Total Base Non Water Volume:	0



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	Encana	Base Fluid					
			Water	7732-18-5	100.00000	99.92934	Recycled
Sodium Hypochlorite	Baker Hughes, Inc.	Biocide					
			Water	7732-18-5	76.00000	0.00964	
			Sodium chloride	7647-14-5	30.00000	0.00380	
			Sodium hypochlorite	7681-52-9	30.00000	0.00380	
ALPHA 1427	Baker Petrolite	Biocide					
			Glutaraldehyde	111-30-8	30.00000	0.00785	
			Didecyl dimethyl ammonium chloride	7173-51-5	10.00000	0.00262	
			Ethanol	64-17-5	5.00000	0.00131	
			Quaternary ammonium compound	68424-85-1	5.00000	0.00131	
ASPEN FR-27	Aspen Polymers	Friction Reducer					
			Ethylene glycol	107-21-1	3.00000	0.00095	
BioBalls	Santrol Proppants	Fluid Diverter					
			Polylactide Resin	9051-89-2	100.00000	0.00000	% Trade Secret
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.							
Other Chemicals	Other Chemicals	Other Chemicals					
			Water	7732-18-5			
			Sodium Acetate	127-09-3			

			Isoparaffinic Solvent	64742-47-8			
			Sorbitan Monooleate	1338-43-8			
			Ethoxylated Alcohols	66455-15-0			
			2-Propenoic acid, polymer with 2 -propenamide, sodium salt	25987-30-8			

* 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%

Note: For Field Development Products (products that begin with FDP), MSDS level only information has been provided.

Ingredient information for chemicals subject to 29 CFR 1910.1200(i) and Appendix D are obtained from suppliers Material Safety Data Sheets (MSDS)