

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	12/23/2013
Job End Date:	12/23/2013
State:	California
County:	Kern - 30
API Number:	04-030-51953-00-00
Operator Name:	Aera Energy LLC
Well Name and Number:	Result 558U3-36
Longitude:	-119.77381000
Latitude:	35.52937000
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	1,641
Total Base Water Volume (gal):	92,064
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	Operator	Carrier					
			Water	7732-18-5	100.00000	71.35630	
GW-3LDF	Baker Hughes	Gelling Agent					
			Guar Gum	9000-30-0	60.00000	0.16493	SmartCare Product
			Petroleum Distillates	64742-47-8	30.00000	0.08247	SmartCare Product
			Paraffinic Petroleum Distillate	64742-55-8	30.00000	0.08247	SmartCare Product
			1-butoxy-2-propanol	5131-66-8	5.00000	0.01374	SmartCare Product
			Crystalline Silica: Quartz	14808-60-7	5.00000	0.01374	SmartCare Product
			Isotridecanol, ethoxylated	9043-30-5	5.00000	0.01374	SmartCare Product
XLW-10A	Baker Hughes	Crosslinker					
			Sodium Tetraborate Decahydrate	1303-96-4	30.00000	0.03280	
			Ethylene Glycol	107-21-1	30.00000	0.03280	
			Sodium Hydroxide	1310-73-2	10.00000	0.01093	
Enzyme G-I	Baker Hughes	Breaker					
			Contains non-hazardous ingredients which are listed in the non-MSDS section of the report	NA	100.00000	0.05891	SmartCare Product
Clay Master-5C (Tote)	Baker Hughes	Clay Control					
			Oxyakylated Amine Quat	Trade Secret	60.00000	0.05158	SmartCare Product

ScaleSorb 3, (25# pail)	Baker Hughes	Scale Inhibitor					
			Diatomaceous Earth, Calcined	91053-39-3	100.00000	0.01859	SmartCare Product
			Amino Alkyl Phosphonic Acid	Trade Secret	30.00000	0.00558	SmartCare Product
			Phosphonic Acid	13598-36-2	1.00000	0.00019	SmartCare Product
			Crystalline Silica: Quartz (SiO2)	14808-60-7	1.00000	0.00019	SmartCare Product
GBW-5	Baker Hughes	Breaker					
			Ammonium persulphate	7727-54-0	100.00000	0.00744	SmartCare Product
X-Cide 207	Baker Hughes	Biocide					
			Diatomaceous Earth, Calcined	91053-39-3	60.00000	0.00134	
			5-Chloro-2-Methyl-4-Isothiazolin-3-One	26172-55-4	10.00000	0.00022	
			Magnesium Nitrate	10377-60-3	10.00000	0.00022	
			2-Methyl-4-Isothiazolin-3-One	2682-20-4	5.00000	0.00011	
			Magnesium Chloride	7786-30-3	5.00000	0.00011	
			Crystalline Silica: Cristobalite	14464-46-1	1.00000	0.00002	
			Crystalline Silica: Quartz (SiO2)	14808-60-7	1.00000	0.00002	
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					
			Crystalline Quartz (silica)	14808-60-7		27.93415	
			Water	7732-18-5		0.11339	
			Sodium Chloride	7647-14-5		0.00198	
			Hemicellulase Enzyme Concentrate	9025-56-3		0.00177	
			2-butoxy-1-propanol	15821-83-7		0.00027	

* 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)