

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date	9/25/2012
State:	California
County:	Kern County
API Number:	04-030-47564
Operator Name:	Chevron USA Inc
Well Name and Number:	4 4-8F
Longitude:	-119.720387
Latitude:	35.605496
Long/Lat Projection:	NAD83
Production Type:	Oil
True Vertical Depth (TVD):	2,755
Total Water Volume (gal)*:	208,959

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	Chevron	Base Fluid			100.00%	72.67895%	
WG-36	Halliburton	Gelling Agent	Guar gum	9000-30-0	100.00%	0.13962%	
BC-140	Halliburton	Crosslinker	Monoethanolamine borate	26038-87-9	60.00%	0.02129%	
			Ethylene glycol	107-21-1	30.00%	0.01064%	
MO-67	Halliburton	Buffer	Sodium hydroxide	1310-73-2	30.00%	0.00464%	
FE-1A	Halliburton	Iron Control Additive	Acetic anhydride	108-24-7	100.00%	0.01870%	
			Acetic Acid	64-19-7	60.00%	0.01122%	
CLA-WEB	Halliburton	Clay Stabilizer	Proprietary	Proprietary	60.00%	0.01950%	
CAT-3	Halliburton	Activator	EDTA/Copper chelate	Confidential Business Information	30.00%	0.01383%	
SP BREAKER	Halliburton	Breaker	Sodium persulfate	7775-27-1	100.00%	0.00229%	
SCALECHEK SCP-2	Halliburton	Scale Inhibitor	Glassy calcium magnesium phosphate	65997-17-3	100.00%	0.01459%	
BE-3S	Halliburton	Biocide	2-Monobromo-3- nitrilopropionamide	1113-55-9	5.00%	0.00005%	
			2,2 Dibromo-3-nitrilopropionamide	10222-01-2	100.00%	0.00108%	
Sand-Premium White-20/40	Halliburton	Proppant	Crystalline silica, quartz	14808-60-7	100.00%	27.01526%	

\* 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.

