

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date	7/2/2011
State:	CA
County:	Los Angeles
API Number:	04-237-23051
Operator Name:	Occidental (OXY)
Well Name and Number:	C-651A
Longitude:	-118.139149
Latitude:	33.73973
Long/Lat Projection:	NAD27
Production Type:	Oil
True Vertical Depth (TVD):	6,240
Total Water Volume (gal)*:	98,490

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%	75.86803%	
Super LC	BHI	Proppant	Silicon Dioxide (Silica Sand)	14808-60-7	97.00%	6.02370%	
			Phenol Formaldehyde Resin	9003-35-4	5.00%	0.31050%	
			Hexamethylenetetramine	1009-7-0	0.01%	0.00062%	
Brady Sand	BHI	Proppant	Silicon Dioxide (Silica Sand)	14808-60-7	99.90%	14.47551%	
			Aluminum Oxide	1344-28-1	0.80%	0.11592%	
			Iron Oxide	1309-37-1	0.10%	0.01449%	
			Titanium Oxide	13463-67-7	0.10%	0.01449%	
Potassium Chloride	BHI	Clay Control	Potassium Chloride	7447-40-7	100.00%	0.01259%	
BF-7L	BHI	Buffer	Potassium Carbonate	584-08-7	50.00%	0.20739%	
Enzyme G-I	BHI	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.00419%	
			Water	7732-18-5	97.00%	0.13549%	
GBW-5	BHI	Breaker	Ammonium Persulfate	7727-54-0	99.00%	0.04010%	
GW-3LDF	BHI	Gellant	Petroleum Distillate Blend	CBI	70.00%	0.35699%	
			Guar Gum	9000-30-0	40.00%	0.20399%	
High Perm CRB	BHI	Breaker	Ammonium Persulphate	7727-54-0	100.00%	0.00705%	
			Crystalline Silica Quartz	14808-60-7	15.00%	0.00106%	

Inflo 250W	BHI	Surfactant	Surfactants	CBI	80.00%	0.11506%	
			2-Butoxyethanol	111-76-2	20.00%	0.02876%	
			Methanol	67-56-1	30.00%	0.04315%	
Superset W	BHI	Activator	Methanol	67-56-1	40.00%	0.03600%	
			Nonyl phenyl polyethylene glycol ether	9016-45-9	60.00%	0.05400%	
XLW-32	BHI	Crosslinker	Methanol	67-56-1	90.00%	0.03609%	
			Boric Oxide	1303-86-2	20.00%	0.00401%	
XLW-56	BHI	Crosslinker	Glyoxal	107-22-2	30.00%	0.06562%	
			Sodium Tetraborate	1330-43-4	10.00%	0.02187%	
			Sodium Hydroxide	1310-73-2	5.00%	0.01094%	
			D-Glucitol	50-70-4	10.00%	0.02187%	
X-Cide 207	BHI	Biocide	5-Chloro-2-Methyl-4-Isothiazolin-3-One	26172-55-4	10.00%	0.00032%	
			2-Methyl-4-Isothiazolin-3-One	2682-20-4	5.00%	0.00016%	
			Magnesium Nitrate	10377-60-3	10.00%	0.00032%	
			Magnesium Chloride	7786-30-3	5.00%	0.00016%	
			Diatomaceous Earth, Calcined	91053-39-3	60.00%	0.00190%	
			Crystalline Silica: Cristobalite	14464-46-1	1.00%	0.00003%	
			Crystalline Silica: Quartz (SiO2)	14808-60-7	1.00%	0.00003%	
<p>* Total Water Volume sources may include fresh water, produced water, and/or recycled water</p> <p>** Information is based on the maximum potential for concentration and thus the total may be over 100%</p> <p>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.</p>							