

Hydraulic Fracturing Fluid Product Component Information Disclosure

Fracture Date	6/3/2011
State:	CA
County:	Kern
API Number:	04-030-43347
Operator Name:	Occidental (OXY)
Well Name and Number:	Tulare #310-8H
Longitude:	-119.26877
Latitude:	35.52427
Long/Lat Projection:	NAD27
Production Type:	Oil
True Vertical Depth (TVD):	12,820
Total Water Volume (gal)*:	902,622

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%	85.16330%	
Frac Sand (All Meshes) [CWT]	BHI	Proppant	Crystalline Silica (Quartz)	14808-60-7	100.00%	13.00073%	
SinterBlast Bauxite	BHI	Proppant	Alfa-Alumina	-	100.00%	0.03738%	
			Hematite	-	15.00%	0.00561%	
			Maghemite	-	2.00%	0.00075%	
Alpha 125	BHI	Biocide	Glutaraldehyde	111-30-8	30.00%	0.00729%	
Ammonium Chloride	BHI	Clay Control	Ammonium Chloride	12125-02-9	100.00%	0.00283%	
BC-3	BHI	Breaker Catalyst	Non-hazardous	-	100.00%	0.02150%	
BF-7L	BHI	Buffer	Potassium Carbonate	584-08-7	50.00%	0.20790%	
CI-27	BHI	Corrosion Inhibitor	Methanol	67-56-1	60.00%	0.00102%	
			Thiourea Polymer	68527-49-1	30.00%	0.00051%	
			Tall Oil Acid	61790-12-3	30.00%	0.00051%	
			Ethoxylated Alcohols^ C14-15	68951-67-7	30.00%	0.00051%	
			Propargyl Alcohol	107-19-7	10.00%	0.00017%	
			Alkenes^ C>10 Alpha-	64743-02-8	5.00%	0.00009%	
Clay Master-5C	BHI	Clay Control	Oxyakylated Amine Quat	138879-94-4	60.00%	0.00033%	

Enzyme G-I	BHI	Breaker	Hemicellulase Enzyme Concentrate	9025-56-3	3.00%	0.00553%	
			Water	7732-18-5	97.00%	0.17868%	
Ferrotrol 210	BHI	Iron Control	Erythorbic Acid	89-65-6	100.00%	0.00068%	
Ferrotrol 300L	BHI	Iron Control	Citric Acid	77-92-9	70.00%	0.00333%	
GLFC-1B	BHI	Gellant	Alkanes / Alkenes	Multiple	45.00%	0.37068%	
			Guar gum	9000-30-0	50.00%	0.41186%	
HCl:HF	BHI	Acidizing	Hydrochloric Acid	7647-01-0	30.00%	0.17004%	
			Hydrofluoric Acid	7664-39-3	7.00%	0.03967%	
Inflo 250W	BHI	Surfactant	Surfactants	CBI	80.00%	0.14619%	
			2-Butoxyethanol	111-76-2	20.00%	0.03655%	
			Methanol	67-56-1	30.00%	0.05482%	
NE-118	BHI	Non-emulsifier	Aromatic Hydrocarbon Solvent	64742-94-5	35.00%	0.00014%	
			Xylene	1330-20-7	5.00%	0.00002%	
			Isopropyl Alcohol	67-63-0	65.00%	0.00026%	
			Naphthalene	91-20-3	5.00%	0.00002%	
XLW-56	BHI	Crosslinker	Glyoxal	107-22-2	30.00%	0.07151%	
			Sodium Tetraborate	1330-43-4	10.00%	0.02384%	
			Sodium Hydroxide	1310-73-2	5.00%	0.01192%	
			D-Glucitol	50-70-4	10.00%	0.02384%	

* 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.