

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/28/2015
Job End Date:	6/12/2015
State:	Texas
County:	Crockett
API Number:	42-105-42042-00-00
Operator Name:	EP Energy
Well Name and Number:	University 41-10 BH
Longitude:	-101.15544200
Latitude:	31.02159200
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	6,359
Total Base Water Volume (gal):	10,638,012
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	0.84597	
100 Mesh Sand	FTSI	proppant					
			Silica, Quartz	14808-60-7	100.00000	0.11435	
40/70 White	FTSI	proppant					
			Silica, Quartz	14808-60-7	100.00000	0.03783	
SHALE SURF 1000	FTSI	Surfactant					
			Water	7732-18-5	85.00000	0.00035	
			Ethoxylated alcohol	Proprietary	20.00000	0.00008	
			Poly-(oxy-1,2-ethanediyl)-alpha-undecyl-omega	34398-01-1	11.00000	0.00005	
			2-Butoxyethanol	111-76-2	10.00000	0.00004	
			Methanol	67-56-1	10.00000	0.00004	
			Cyclohexene	5989-27-5	10.00000	0.00004	
			2-Propanol	67-63-0	10.00000	0.00004	
Hydrochloric Acid (HCl)	FTSI	Acid					
			Water	7732-18-5	63.00000	0.00038	
			Hydrogen Chloride	7647-01-0	37.00000	0.00022	
FRW-600	FTSI	Friction Reducer					

			Acrylamide Polymer	Trade Secret	100.00000	0.00042	
			Hydrotreated light distillate	64742-47-8	30.00000	0.00012	
			Ammonium acetate	631-61-8	6.00000	0.00002	
NE-100	FTSI	Non-emulsifier					
			Water	7732-18-5	90.00000	0.00037	
			2-Butoxyethanol	111-76-2	10.00000	0.00004	
			2-Propanol	67-63-0	10.00000	0.00004	
			Dodecylbenzenesulfonic acid	27176-87-0	5.00000	0.00002	
			Benzene, C10-16 Alkyl Derivatives	68648-87-3	0.04000	0.00000	
			Unsulphonated Matter	Proprietary	0.03000	0.00000	
			Sulfuric Acid	7664-93-9	0.01000	0.00000	
			Sulfur Dioxide	7446-09-5		0.00000	
FE-100L	FTSI	Iron control					
			Water	7732-18-5	60.00000	0.00000	
			Citric acid	77-92-9	55.00000	0.00000	
CI-150	FTSI	Acid Corrosion Inhibitor					
			Isopropanol	67-63-0	30.00000	0.00000	
			Organic amine resin salt	Proprietary	30.00000	0.00000	
			Ethylene Glycol	107-21-1	30.00000	0.00000	
			Quaternary ammonium compound	Proprietary	10.00000	0.00000	
			Aromatic aldehyde	Proprietary	10.00000	0.00000	
			Dimethylformamide	68-12-2	10.00000	0.00000	
			Alkylene Oxide Block Polymer	Proprietary	10.00000	0.00000	
			Water	7732-18-5	5.00000	0.00000	
			Diethylene glycol	111-46-6	1.00000	0.00000	
			Aliphatic alcohol	Proprietary	0.10000	0.00000	
			Fatty Acid	Proprietary	0.10000	0.00000	
			Fatty Acid Salt	Proprietary	0.10000	0.00000	
NE-100W	FTSI	Non-emulsifier					
			Water	7732-18-5	80.00000	0.00000	
			Methanol	67-56-1	15.00000	0.00000	
			2-Propanol	67-63-0	10.00000	0.00000	
			2-Butoxyethanol	111-76-2	10.00000	0.00000	
			Dodecylbenzenesulfonic acid	27176-87-0	5.00000	0.00000	
			Benzene, C10-16 Alkyl Derivatives	68648-87-3	0.04000	0.00000	
			Unsulphonated Matter	Proprietary	0.03000	0.00000	
			Sulfuric Acid	7664-93-9	0.01000	0.00000	
			Sulfur Dioxide	7446-09-5			

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.

* 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)