

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	1/13/2018
Job End Date:	2/5/2018
State:	Texas
County:	Upton
API Number:	42-461-40595-00-00
Operator Name:	Pioneer Natural Resources
Well Name and Number:	UNIVERSITY 3-310PU 9H
Latitude:	31.27579200
Longitude:	-101.82801300
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	8,459
Total Base Water Volume (gal):	19,694,766
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	Pioneer Natural Resources	Carrier/Base Fluid					
			Water	7732-18-5	100.00000	88.76486	
SAND (WHOLE GRAIN)	Pioneer Natural Resources Pumping Services LLC	Proppant					
			Crystalline Silica Quartz	14808-60-7	99.50000	9.14232	
Crystalline Silica in the form of Quartz - various grades	Pioneer Natural Resources Pumping Services LLC	Proppant					
			Crystalline Silica	14808-60-7	99.90000	1.59022	
POLYfrac PLUS M-4.0	Pioneer Natural Resources Pumping Services LLC	Gelling Agent					
			Petroleum distillate	64742-47-8	55.00000	0.06591	
			Guar Gum	9000-30-0	50.00000	0.05991	
			Clay -	1302-78-9	5.00000	0.00599	
			Surfactant -	154518-36-2	1.00000	0.00120	
Hydrochloric Acid, 33-40%	Pioneer Natural Resources Pumping Services LLC	Stimulation					

			Water	7732-18-5	67.00000	0.08002	
			Hydrogen chloride	7647-01-0	40.00000	0.04778	
FHE4251 Surfactant	Pioneer Natural Resources Pumping Services LLC	Surfactant					
			Alkyl sultaine	Proprietary	10.00000	0.00909	Nalco Champion, 3200 SW Freeway, Suite 2700, Houston, TX 77027. Contact: Michael Powell, 713-627-9011
			Ethylene glycol	107-21-1	10.00000	0.00909	
			Oxyalkylated alcohol - NALCO	Proprietary	5.00000	0.00454	Nalco Champion, 3200 SW Freeway, Suite 2700, Houston, TX 77027. Contact: Michael Powell, 713-627-9011
			Glycerol	56-81-5	5.00000	0.00454	
			Organic sulfonic acid salt	Proprietary	5.00000	0.00454	Nalco Champion, 3200 SW Freeway, Suite 2700, Houston, TX 77027. Contact: Michael Powell, 713-627-9011
			Sodium chloride	7647-14-5	5.00000	0.00454	
Caustic Soda Liquid	Pioneer Natural Resources Pumping Services LLC	Stimulation					
			Water	7732-18-5	94.50000	0.00973	
			Sodium Hydroxide	1310-73-2	51.50000	0.00530	
			Sodium chloride (NaCl)	7647-14-5	5.00000	0.00051	
FLOJET DR 22430	Pioneer Natural Resources Pumping Services LLC	Friction Reducer					
			Distillates (petroleum) Light Hydrotreated	64742-47-8	30.00000	0.01142	
			Alcohols, C11-14-iso-, C13-rich, ethoxylated	78330-21-9	5.00000	0.00190	
POLYstim SI-110N Scale Inhibitor	Pioneer Natural Resources Pumping Services LLC	Scale Inhibitor					
			Proprietary blend	Proprietary	30.00000	0.00568	PIP Technology, 14227 Fern, Houston, TX 77079. Contact: Mo Hossain, 281-584-0047
CL-201W	Pioneer Natural Resources Pumping Services LLC	Crosslinker					
			Alkyl alcohol	Proprietary	10.00000	0.00260	Nalco Champion, 3200 SW Freeway, Suite 2700, Houston, TX 77027. Contact: Michael Powell, 713-627-9011
			Sulfur compound	Proprietary	10.00000	0.00260	Nalco Champion, 3200 SW Freeway, Suite 2700, Houston, TX 77027. Contact: Michael Powell, 713-627-9011
EC6779A	Nalco Champion	Biocide					
			Acetic Acid	64-19-7	55.20000	0.00336	
			Peroxyacetic Acid	79-21-0	21.00000	0.00128	
			Hydrogen Peroxide	7722-84-1	4.00000	0.00024	

CL010	Pioneer Natural Resources Pumping Services LLC	Crosslinker					
			Boric acid	10043-35-3	10.00000	0.00198	
			Sodium Borate - NALCO	13840-56-7	5.00000	0.00099	
			Glycerol	56-81-5	5.00000	0.00099	
PROCAP MC-AP	Pioneer Natural Resources Pumping Services LLC	Gel Breaker					
			Ammonium persulfate	7727-54-0	76.00000	0.00203	
			Cured Resin	Proprietary	24.00000	0.00064	Fritz Industries, 500 Sam Houston Road, Mesquite, TX 75149. Contact: Laurie Meeks, 972-285-5471
VERSENE 100 Chelating Agent Liquid	Pioneer Natural Resources Pumping Services LLC	Scale Inhibitor					
			Water	7732-18-5	56.00000	0.00078	
			tetrasodium ethylenediamine tetraacetate	64-02-8	39.00000	0.00055	
			Sodium hydroxyacetate	2836-32-0	3.00000	0.00004	
			Sodium Hydroxide	1310-73-2	1.60000	0.00002	
			Nitrilotriacetate, trisodium salt (NTA)	5064-31-3	1.00000	0.00001	
Sodium Erythorbate	Pioneer Natural Resources Pumping Services LLC	Iron Control					
			Sodium erythorbate	6381-77-7	100.00000	0.00048	
X-Corr HT	Pioneer Natural Resources Pumping Services LLC	Corrosion Inhibitor					
			2-Propanol	67-63-0	38.27770	0.00029	
			Laury Alcohol Ethoxylate	68551-12-2	14.55000	0.00011	
			Cinnamaldehyde	104-55-2	10.18800	0.00008	
StimOil ENHF	Pioneer Natural Resources Pumping Services LLC	Surfactant					
			Citrus terpenes - CESI	68647-72-3	5.00000	0.00002	
			Isopropyl alcohol	67-63-0	1.50000	0.00001	
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					
			Water - TS	7732-18-5		0.08179	
			Water - TS	7732-18-5		0.01980	
			Water - TS	7732-18-5		0.01827	
			Water - TS	7732-18-5		0.01705	
			Sodium calcium pentaborate octahydrate - TS	1319-33-1		0.01559	
			Water - TS	7732-18-5		0.01559	
			2-Propenoic acid polymer with acrylamide, sodium salt - TS	25987-30-8		0.01142	

			Buffering Agents - TS	Proprietary		0.00838	SNF Oil and Gas, 1 Chemical Plant Road, Riceboro, GA 31323. Contact: Gary McGuffey, 912-884-3366
			Proprietary Surfactant Package	Proprietary		0.00190	SNF Oil and Gas, 1 Chemical Plant Road, Riceboro, GA 31323. Contact: Gary McGuffey, 912-884-3366
			Alkyl alcohols - TS	Proprietary		0.00091	Nalco Champion, 3200 SW Freeway, Suite 2700, Houston, TX 77027. Contact: Michael Powell, 713-627-9011
			Water - TS	7732-18-5		0.00029	
			Synthetic amorphous metal silicate - TS	53320-86-8		0.00026	
			Fatty Acids, tall oil reaction products with acetophenone, formaldehyde and thiourea, hydrochlorides - TS	68188-40-9		0.00020	
			Polyamine Polyethers - TS	Proprietary		0.00012	CESI Chemical, 1004 S. Plainsman Road, Marlow, OK 73055. Contact: Jason White, 580-658-6608
			Propylene glycol - TS	57-55-6		0.00012	
			Ethox CO-30 - TS	61791-12-6		0.00005	
			Nonionic Alkoxyate - TS	Proprietary		0.00004	CESI Chemical, 1004 S. Plainsman Road, Marlow, OK 73055. Contact: Jason White, 580-658-6608
			Acrylamide (as residual) - TS	79-06-1		0.00004	
			Tall oil, ethoxylated - TS	65071-95-6		0.00003	
			Surfactants - TS	Proprietary		0.00002	CESI Chemical, 1004 S. Plainsman Road, Marlow OK, 73055. Contact: Jason White, 580-658-6608

* 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)