

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	5/15/2013
Job End Date:	5/21/2013
State:	Texas
County:	Reagan
API Number:	42-383-37807-00-00
Operator Name:	Pioneer Natural Resources
Well Name and Number:	UNIVERSITY 1-29 2H
Longitude:	-101.74287552
Latitude:	31.19365537
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	8,097
Total Base Water Volume (gal):	8,976,996
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	89.02184	
SAND (WHOLE GRAIN)	Pioneer Natural Resources Pumping Services LLC	Proppant					
			Crystalline Silica Quartz	14808-60-7	99.50000	8.91853	
Crystalline Silica in the form of Quartz - various grades	Pioneer Natural Resources Pumping Services LLC	Proppant					
			Crystalline Silica	14808-60-7	99.90000	1.12323	
Silica Sand	Pioneer Natural Resources Pumping Services LLC	hydraulic fracturing/proppant					
			Crystalline Silica	14808-60-7	99.90000	0.35907	
			Aluminum oxide	1344-28-1	0.80000	0.00288	
			Titanium Oxide	13463-67-7	0.10000	0.00036	
			Iron oxide	1309-37-1	0.10000	0.00036	
Hydrochloric Acid, 33-40%	Pioneer Natural Resources Pumping Services LLC	Stimulation					
			Hydrogen chloride	7647-01-0	40.00000	0.12064	

Product 6191X	Pioneer Natural Resources Pumping Services LLC	Surfactant					
			Isodecylalcohol, ethoxylated	61827-42-7	30.00000	0.02674	
			Quaternary Ammonium compound	Proprietary	10.00000	0.00891	Corsitech, 3200 Southwest Freeway, ste. 2700, Houston TX 77027. Contact: Curtis Sitz, 713-423-7899
			Quaternary Ammonium Salt	Proprietary	5.00000	0.00446	Corsitech, 3200 Southwest Freeway, ste. 2700, Houston TX 77027. Contact: Curtis Sitz, 713-423-7899
StimLube W	Pioneer Natural Resources Pumping Services LLC	Friction Reducer					
			Hydrotreated Light Distillate	64742-47-8	30.00000	0.02402	
KBW-507 Biocide	Pioneer Natural Resources Pumping Services LLC	Biocide					
			Glutaraldehyde	111-30-8	25.00000	0.00928	
KSIW-624	Pioneer Natural Resources Pumping Services LLC	Scale Inhibitor					
			Methanol	67-56-1	15.00000	0.00218	
			Polyphosphoric acids, esters with triethanolamine	68131-71-5	15.00000	0.00218	
X-Corr HT	Pioneer Natural Resources Pumping Services LLC	Corrosion Inhibitor					
			Isopropyl alcohol	67-63-0	60.00000	0.00216	
			Cinnamaldehyde	104-55-2	30.00000	0.00108	
			Laury Alcohol Ethoxylate	68551-12-2	30.00000	0.00108	
PROCAP MC-AP	Pioneer Natural Resources Pumping Services LLC	Gel Breaker					
			Ammonium persulfate	7727-54-0	76.00000	0.00172	
			Cured Resin	Proprietary	24.00000	0.00054	Fritz Industries, 500 Sam Houston Road, Mesquite, TX 75149. Contact: Laurie Meeks, 972-285-5471
Versene * Powder Chelating Agent	Pioneer Natural Resources Pumping Services LLC	Scale Inhibitor					
			tetrasodium ethylenediamine tetraacetate	64-02-8	83.00000	0.00126	
			Sodium hydroxyacetate	2836-32-0	6.50000	0.00010	
			Nitrilotriacetate, trisodium salt (NTA)	5064-31-3	5.00000	0.00008	
			Trisodium ethylenediaminetriacetate	19019-43-3	3.00000	0.00005	
			Sodium hydroxide	1310-73-2	2.50000	0.00004	
			Disodium Ethylenediaminediacetate	38011-25-5	2.00000	0.00003	
Sodium Erythorbate	Pioneer Natural Resources Pumping Services LLC	Iron Control					

			Sodium erythorbate	6381-77-7	100.00000	0.00114	
Chemical Frac Tracer	ProTechnics	Diagnostics					
			Water	7732-18-5	91.00000	0.00006	
			Sodium Salt	Proprietary	10.00000	0.00001	Regulatory Compliance (713) 328-2320
ZeroWashO Tracer	ProTechnics	Diagnostics					
			Water (major)	7732-18-5	70.00000	0.00002	
			Methanol (major)	67-56-1	30.00000	0.00001	
			Ceramic Proppant	Proprietary	14.00000	0.00000	Regulatory Compliance (713) 328-2320
			Dipropylene glycol methyl ether (minor)	34590-94-8	1.00000	0.00000	
			Xanthan gum (minor)	11138-66-2	1.00000	0.00000	
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	Proprietary		0.20208	Corsitech, 3200 Southwest Freeway, ste. 2700, Houston TX 77027. Contact: Michael Powell, 713-332-1529
			Acrylamide Polymer - TS	Proprietary		0.08005	CESI Chemical, 1004 S. Plainsman Road, Marlow OK, 73055. Contact: Jason White, 580-658-6608
			Water	Proprietary		0.05983	Corsitech, 3200 Southwest Freeway, ste. 2700, Houston TX 77027. Contact: Michael Powell, 713-332-1529
			Water	Proprietary		0.02785	Corsitech, 3200 Southwest Freeway, ste. 2700, Houston TX 77027. Contact: Michael Powell, 713-332-1529
			Water	Proprietary		0.01147	Corsitech, 3200 Southwest Freeway, ste. 2700, Houston TX 77027. Contact: Michael Powell, 713-332-1529
			2-hydroxy-N,N-bis(2-hydroxyethyl)-N-methylethanaminium chloride - TS	7006-59-9		0.00651	
			2-Propanol - TS	67-63-0		0.00140	
			Quaternary Ammonium compounds, dicocoalkyldimethyl, chlorides - TS	61789-77-3		0.00094	
			Fatty Acids, tall oil reaction products with acetophenone, formaldehyde and thiourea, hydrochlorides - TS	68188-40-9		0.00093	
			Polyphosphoric acid - TS	8017-16-1		0.00058	
			Polycarboxylic acid, sodium salt - TS	Proprietary		0.00044	Kel-Tech, Inc, PO Box 11383, Midland TX 79702. Contact: Dennis Wallace, 432-684-4700
			Triethanolamine - TS	102-71-6		0.00044	
			Ethox CO-30 - TS	61791-12-6		0.00025	
			2-Propanol - TS	67-63-0		0.00022	

			Tall oil, ethoxylated - TS	65071-95-6		0.00014	
			Water	Proprietary		0.00012	Corsitech, 3200 Southwest Freeway, ste. 2700, Houston TX 77027. Contact: Michael Powell, 713-332-1529
			Triethanolamine - TS	102-71-6		0.00009	
			Triethanolamine hydrochloride - TS	637-39-8		0.00009	
			Amines, dicoco alkylmethyl, Hydrochloride - TS	Proprietary		0.00003	Corsitech, 3200 Southwest Freeway, ste. 2700, Houston TX 77027. Contact: Curtis Sitz, 713-423-7899
			Amines, dicoco alkylmethyl - TS	61788-62-3		0.00003	
			Methyl chloride - TS	74-87-3			

* 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)