

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/18/2015
Job End Date:	4/4/2015
State:	Texas
County:	Upton
API Number:	42-461-39847-00-00
Operator Name:	Pioneer Natural Resources
Well Name and Number:	UNIVERSITY 3-14 51H
Longitude:	-101.84270000
Latitude:	31.28510000
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	9,079
Total Base Water Volume (gal):	12,454,302
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	91.60581	
SAND (WHOLE GRAIN)	Pioneer Natural Resources Pumping Services LLC	Proppant					
			Crystalline Silica Quartz	14808-60-7	99.50000	7.79012	
POLYfrac PLUS M-4.0	Pioneer Natural Resources Pumping Services LLC	Gelling Agent					
			Petroleum distillate	64742-47-8	55.00000	0.13393	
			Guar Gum	9000-30-0	50.00000	0.12176	
			Clay -	1302-78-9	5.00000	0.01218	
			Surfactant -	154518-36-2	1.00000	0.00244	
PXL-120X	Pioneer Natural Resources Pumping Services LLC	Crosslinker					
			Potassium hydroxide (CESI)	1310-58-3	50.00000	0.05540	
			Glycerine	56-81-5	40.00000	0.04432	
			Boric acid	10043-35-3	25.00000	0.02770	
Hydrochloric Acid, 33-40%	Pioneer Natural Resources Pumping Services LLC	Stimulation					

			Water	7732-18-5	67.00000	0.03684	
			Hydrogen chloride	7647-01-0	40.00000	0.02200	
StimOil EN	Pioneer Natural Resources Pumping Services LLC	Surfactant					
			Isopropyl alcohol	67-63-0	30.00000	0.01910	
			Citrus terpenes	94266-47-4	5.00000	0.00318	
KSIW-625N	Pioneer Natural Resources Pumping Services LLC	Scale Inhibitor					
			Water	7732-18-5	70.70000	0.01418	
			Methanol	67-56-1	10.00000	0.00201	
			Ethylene glycol	107-21-1	5.00000	0.00100	
Product 6191X	Pioneer Natural Resources Pumping Services LLC	Surfactant					
			Isodecylalcohol, ethoxylated	61827-42-7	24.00000	0.00759	
PROCAP MC-AP	Pioneer Natural Resources Pumping Services LLC	Gel Breaker					
			Ammonium persulfate	7727-54-0	76.00000	0.00492	
			Cured Resin	Proprietary	24.00000	0.00155	Fritz Industries, 500 Sam Houston Road, Mesquite, TX 75149. Contact: Laurie Meeks, 972-285-5471
StimLube W	Pioneer Natural Resources Pumping Services LLC	Friction Reducer					
			Hydrotreated Light Distillate	64742-47-8	30.00000	0.00625	
AC-20 Acetic Acid 20%	Pioneer Natural Resources Pumping Services LLC	Buffer					
			Acetic anhydride	108-24-7	15.00000	0.00154	
			Acetic acid	64-19-7	10.00000	0.00102	
X-Corr HT-W	Pioneer Natural Resources Pumping Services LLC	Corrosion Inhibitor					
			2-Butoxy ethanol	111-76-2	60.00000	0.00100	
			Aromatic Aldehyde	Proprietary	30.00000	0.00050	Nalco Champion, 3200 SW Freeway, Suite 2700, Houston, TX 77027. Contact: Michael Powell, 713-627-9011
			Fatty alcohol Ethoxylate	Proprietary	5.00000	0.00008	Nalco Champion, 3200 SW Freeway, Suite 2700, Houston, TX 77027. Contact: Michael Powell, 713-627-9011
Versene* Powder Chelating Agent	Pioneer Natural Resources Pumping Services LLC	Scale Inhibitor					
			tetrasodium ethylenediamine tetraacetate	64-02-8	83.00000	0.00051	
			Water	7732-18-5	8.00000	0.00005	
			Sodium hydroxyacetate	2836-32-0	6.50000	0.00004	

			Nitrilotriacetate, trisodium salt (NTA)	5064-31-3	5.00000	0.00003	
			Trisodium ethylenediaminetriacetate	19019-43-3	3.00000	0.00002	
			Sodium hydroxide	1310-73-2	2.50000	0.00002	
			Disodium Ethylene diaminediacetate	38011-25-5	2.00000	0.00001	
Sodium Erythorbate	Pioneer Natural Resources Pumping Services LLC	Iron Control					
			Sodium erythorbate	6381-77-7	100.00000	0.00046	
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		0.04458	
			Water - TS	7732-18-5		0.03324	
			Water - TS	7732-18-5		0.02124	
			Acrylamide Polymer - TS	Proprietary		0.02082	CESI Chemical, 1004 S. Plainsman Road, Marlow OK, 73055. Contact: Jason White, 580-658-6608
			Polyamine Polyethers - TS	Proprietary		0.01910	CESI Chemical, 1004 S. Plainsman Road, Marlow, OK 73055. Contact: Jason White, 580-658-6608
			Water - TS	7732-18-5		0.00870	
			Organic polyol - TS	Proprietary		0.00828	CESI Chemical, 1004 S. Plainsman Road, Marlow OK, 73055. Contact: Jason White, 580-658-6608
			Nonionic Alkoxylate - TS	Proprietary		0.00637	CESI Chemical, 1004 S. Plainsman Road, Marlow, OK 73055. Contact: Jason White, 580-658-6608
			Surfactants - TS	Proprietary		0.00318	CESI Chemical, 1004 S. Plainsman Road, Marlow OK, 73055. Contact: Jason White, 580-658-6608
			2-hydroxy-N,N-bis(2-hydroxyethyl)-N-methylethanaminium chloride - TS	7006-59-9		0.00231	
			Amines, Phosphonomethylated - TS	Proprietary		0.00221	Kel-Tech, Inc, PO Box 11383, Midland TX 79702. Contact: Dennis Wallace, 432-684-4700
			Fatty amino compound salt - TS	Proprietary		0.00083	Nalco Champion, 3200 SW Freeway, Suite 2700, Houston, TX 77027. Contact: Michael Powell, 713-627-9011
			Ammonium chloride - TS	12125-02-9		0.00066	
			Ethoxylated alcohols - TS	Proprietary		0.00050	Nalco Champion, 3200 SW Freeway, Suite 2700, Houston, TX 77027. Contact: Michael Powell, 713-627-9011

			Quaternary Ammonium compounds, dicoco alkylmethyl, chlorides - TS	61789-77-3		0.00033	
			Water - TS	7732-18-5		0.00008	
			2-Propanol - TS	67-63-0		0.00008	
			Triethanolamine hydrochloride - TS	637-39-8		0.00003	
			Triethanolamine - TS	102-71-6		0.00003	
			Methanol - TS	67-56-1		0.00002	
			Acetophenone - TS	98-86-2		0.00002	
			Amines, dicoco alkylmethyl - TS	61788-62-3		0.00001	
			Amines, dicoco alkylmethyl, Hydrochloride - TS	Proprietary		0.00001	Corsitech, 3200 Southwest Freeway, ste. 2700, Houston TX 77027. Contact: Curtis Sitz, 713-423-7899
			Formaldehyde - TS	50-00-0		0.00000	
			Methyl chloride - TS	74-87-3		0.00000	

\* 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)