

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/19/2020
Job End Date:	3/10/2020
State:	Texas
County:	Ward
API Number:	42-475-37981-00-00
Operator Name:	Shell Oil Company affiliate
Well Name and Number:	UNIVERSITY 19 PW UNIT 2706H
Latitude:	31.64310000
Longitude:	-103.36340000
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	11,697
Total Base Water Volume (gal):	9,413,158
Total Base Non Water Volume:	



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
Fresh Water	Operator	Base Fluid					
			Water	7732-18-5	100.00000	80.49737	
Sand-Common White-100 Mesh, SSA-2	Halliburton	Proppant					
			Crystalline silica quartz	14808-60-7	100.00000	19.37185	
Innospec ScaleCease 7103	Innospec Oilfield Services	Scale Inhibitor					
			Non-hazardous mixture	Trade Secret	100.00000	0.01699	
TRANSCEND-350W	Halliburton	Surfactant					
			Ethoxylated alcohols	Proprietary	30.00000	0.00005	
			Fatty amine salt	Proprietary	5.00000	0.00000	
FDP-S1296-17	Halliburton	Acid Corrosion Inhibitor					
			Modified thiourea polymer	Proprietary	30.00000	0.00001	
			Ethoxylated alcohols	Proprietary	5.00000	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.							
Innospec HiRate 690	Innospec Oilfield Services	Friction Reducer					
			Hydrotreated light petroleum distillate	64742-47-8	30.00000	0.02616	

			Isotridecanol, ethoxylated	69011-36-5	4.99000	0.00435	
Non-hazardous Ingredients	Listed Above	Listed Above					
			Water	7732-18-5	100.00000	0.00884	
			Mixture of dimer and trimer fatty acids of indefinite composition derived from tall oil	61790-12-3	30.00000	0.00001	
			Hexadecene	629-73-2	5.00000	0.00000	
			Glycerine	56-81-5	5.00000	0.00000	
			Ethylene oxide	75-21-8	0.01000	0.00000	
Biosuite GQ123x	BioSuite	Biocide					
			Glutaraldehyde	111-30-8	15.00000	0.00264	
			Ammonium, Alkyl (C12-16) demethylbenzyl-, chlorides	68424-85-1	5.00000	0.00088	
HYDROCHLORIC ACID, 22 BAUME	Halliburton	Solvent					
			Hydrochloric acid	7647-01-0	30.00000	0.00265	
FE-1A ACIDIZING COMPOSITION	Halliburton	Additive					
			Acetic anhydride	108-24-7	100.00000	0.00010	
			Acetic acid	64-19-7	60.00000	0.00006	
FDP-S1296-17	Halliburton	Acid Corrosion Inhibitor					
			Methanol	67-56-1	100.00000	0.00003	
			Propargyl alcohol	107-19-7	5.00000	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)