

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	6/14/2017
Job End Date:	7/14/2017
State:	Texas
County:	Crockett
API Number:	42-105-42356-00-00
Operator Name:	EP Energy
Well Name and Number:	UL 38-20 MH
Latitude:	31.03532600
Longitude:	-101.09570400
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,163
Total Base Water Volume (gal):	15,591,975
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	Chevron	Carrier/Base Fluid	Water	7732-18-5	100.00000	90.70167	None
Sand (Proppant)	Keane	Proppant	Crystalline Silica, Quartz	14808-60-7	100.00000	6.72783	None
15% HCL	Keane	Acid	Water	7732-18-5	85.00000	2.07674	None
			Hydrochloric Acid	7647-01-0	15.00000	0.36648	None
KFR-17	Keane	Friction Reducer	Distillates (petroleum), hydrotreated light	64742-47-8	45.00000	0.02469	None
			ethanediol	107-21-1	10.00000	0.00549	None
			Alcohols, C12-16, ethoxylated propoxylated	68213-24-1	1.00000	0.00055	None
KFR-20	Keane	Friction Reducer	Water	7732-18-5	45.00000	0.00995	None
			copolymer of 2-propenamide	69418-26-4	30.00000	0.00663	None
			Petroleum distillate	64742-47-8	20.00000	0.00442	None
			alcohols, C12-16, ethoxylated	68551-12-2	2.00000	0.00044	None
			oleic acid diethanolamide	93-83-4	2.00000	0.00044	None

			ammonium chloride	12125-02-9	1.00000	0.00022	None
KCC-8	Keane	Clay Control					
			Choline chloride	67-48-1	70.00000	0.00968	None
			Water	7732-18-5	40.00000	0.00553	None
KFEAC-30	Keane	Iron Control					
			acetic acid	64-19-7	60.00000	0.00614	None
			citric acid	77-92-9	40.00000	0.00409	None
BIOC11139A	Keane	Biocide					
			benzyl-(C12-C16 alkyl)-dimethyl- ammonium chloride	68424-85-1	30.00000	0.00675	None
			glutaraldehyde	111-30-8	10.00000	0.00225	None
			ethanol	64-17-5	5.00000	0.00113	None
KAI-12	Keane	Corrosion Inhibitor					
			Methanol	67-56-1	90.00000	0.00335	None
			propan-2-ol	67-63-0	5.00000	0.00019	None
			fatty imidazoline	61790-69-0	5.00000	0.00019	None
			Alcohols, C7-9-iso-, C8-rich	68526-83-0	5.00000	0.00019	None
			xylene	1330-20-7	5.00000	0.00019	None
			prop-2-yn-1-ol	107-19-7	5.00000	0.00019	None
			ethylbenzene	100-41-4	1.00000	0.00004	None
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 Chemical(s)	Listed Above	See Trade Name(s) List					
			Hydrochloric Acid	7647-01-0	15.00000	0.36648	
			copolymer of 2-propenamide	69418-26-4	30.00000	0.00663	
			Water	7732-18-5	40.00000	0.00553	
			ethanediol	107-21-1	10.00000	0.00549	
			Petroleum distillate	64742-47-8	20.00000	0.00442	
			citric acid	77-92-9	40.00000	0.00409	
			glutaraldehyde	111-30-8	10.00000	0.00225	
			ethanol	64-17-5	5.00000	0.00113	
			Alcohols, C12-16, ethoxylated propoxylated	68213-24-1	1.00000	0.00055	
			oleic acid diethanolamide	93-83-4	2.00000	0.00044	
			alcohols, C12-16, ethoxylated	68551-12-2	2.00000	0.00044	
			ammonium chloride	12125-02-9	1.00000	0.00022	
			xylene	1330-20-7	5.00000	0.00019	
			fatty imidazoline	61790-69-0	5.00000	0.00019	
			prop-2-yn-1-ol	107-19-7	5.00000	0.00019	
			propan-2-ol	67-63-0	5.00000	0.00019	
			Alcohols, C7-9-iso-, C8-rich	68526-83-0	5.00000	0.00019	
			ethylbenzene	100-41-4	1.00000	0.00004	
			ethylene/propylene oxide polymer	Proprietary	10.00000		
			Alcohol	68609-68-7	5.00000		
			alcohols, C11-14-iso-, C13- rich, ethoxylated	78330-21-9	5.00000		

\* 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)