

# Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	9/22/2017
Job End Date:	10/8/2017
State:	Texas
County:	Reagan
API Number:	42-383-39840-00-00
Operator Name:	EP Energy
Well Name and Number:	University Central 0803CH
Latitude:	31.17851800
Longitude:	-101.63257600
Datum:	NAD83
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	8,463
Total Base Water Volume (gal):	13,505,164
Total Base Non Water Volume:	837,752



## 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	Operator	Base Carrier Fluid	Water	7732-18-5	100.00000	86.66805	
Sand	Multiple Suppliers	Proppants	Silicon Dioxide	14808-60-7	100.00000	12.72807	
15% Hydrochloric Acid	Reagent	Scale Dissolver	Water	7732-18-5	85.00000	0.32761	
			36% Hydrochloric Acid	7647-01-0	15.00000	0.05781	
ClayBlok 35	Downhole Chemical Solutions	Clay Control / Stabilizers	Water	7732-18-5	80.00000	0.06842	
			Choline chloride	67-48-1	35.00000	0.02994	
			Bio-polymer	Proprietary	1.00000	0.00086	
EnviroSurf 6	Downhole Chemical Solutions	Surfactants	Water	7732-18-5	90.00000	0.03535	
			alpha-sulfo-w-(dodecyloxy)-poly(oxyethane-1,2-diyl), sodium salt	9004-82-4	8.00000	0.00314	
			Alcohols, C12-C16, Ethoxylated	68551-12-2	6.00000	0.00236	
			Quaternary Ammonium Salt	107-64-2	3.00000	0.00118	

HiFlow 5	Downhole Chemical Solutions	Friction Reducers					
			Petroleum Distillate Hydrotreated Light	64742-47-8	28.00000	0.01509	Rest of Components are Trade Secrets
MBC-516	Multiple Suppliers	Biocides					
			Water	7732-18-5	57.00000	0.00755	Water is not listed on the all the SDS Forms
			Glutaraldehyde	111-30-8	27.00000	0.00358	
			Didecyl dimethyl ammonium chloride	7173-51-5	8.00000	0.00106	
			Alkyl dimethyl benzyl ammonium chloride(C12-16)	68424-85-1	6.00000	0.00080	
			Ethanol	64-17-5	3.00000	0.00040	
ScaleBlok 10	Downhole Chemical Solutions	Scale Inhibitors					
			Anionic Polymer	Proprietary	25.00000	0.00580	CAS is Proprietary
FeBlok 50	Downhole Chemical Solutions	Iron Controller / Reducers					
			Citric Acid	77-92-9	60.00000	0.00115	Water +/- 40-70% Not listed on SDS
CorHib 20	Downhole Chemical Solutions	Acid Corrosion Inhibitors					
			Methyl Alcohol	67-56-1	100.00000	0.00078	
			Fatty Acids	Proprietary	10.00000	0.00008	
NonEmul 10	Downhole Chemical Solutions	Non and De-Emulsifiers					
			Methanol	67-56-1	30.00000	0.00018	70% not listed on SDS

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.

\* 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)