

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	3/25/2018
Job End Date:	4/5/2018
State:	Texas
County:	Crockett
API Number:	42-105-42411-00-00
Operator Name:	EP Energy
Well Name and Number:	University East 4128EH
Latitude:	30.97743480
Longitude:	-101.17197804
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	6,292
Total Base Water Volume (gal):	12,075,420
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
Iron X I-IC	Aegis	Iron Chelatin Agent					
				Listed Below			
MBC 12:3	Downhole Chemical Solutions	Biocide					
				Listed Below			

Acid Shield A-LL	Aegis	Corrosion Inhibitor					
				Listed Below			
Water	Customer	Carrier/Base Fluid					
				Listed Below			
ScaleBlok 10	Downhole Chemical Solutions	Scale Inhibitor					
				Listed Below			
Hydrochloric Acid (HCl)	Cooper	Acidizing					
				Listed Below			
EnviroSurf6	Downhole Chemical Solutions	Surfactant					
				Listed Below			
Sand	Customer	Proppant					
				Listed Below			
HiFlow 18	Downhole Chemical Solutions	Friction Reducer					
				Listed Below			
Surf-Shield S-NEL	Aegis	non-Emulsifier					
				Listed Below			

Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.

			Water	7732-18-5	100.00000	99.62917	None
			Crystalline Silica	14808-60-7	100.00000	0.35457	None
			15% Hydrochloric Acid	7647-01-0	100.00000	0.01109	None
			Water	7732-18-5	92.00000	0.00112	None
			Water	7732-18-5	91.00000	0.00107	None
			Petroleum Distillate	64742-47-8	42.00000	0.00084	None
			Water	7732-18-5	35.00000	0.00070	None
			Water	7732-18-5	84.50000	0.00052	None
			Polyacrylamide	9003-05-8	23.00000	0.00046	None
			Glutawaldehyde	111-30-8	12.20000	0.00007	None
			Polycarboxylate, Sodium Salt	68-04-2	5.00000	0.00006	None
			Alcohols C6-C12, Ethoxylated	68551-12-2	5.00000	0.00006	None
			Sodium Laureate Sulfate	9004-82-4	4.00000	0.00005	None
			Hydroxy Phosphono-acetic acid	23783-26-8	3.00000	0.00004	None
			Citric Acid	77-92-9	20.00000	0.00002	None
			Didecyl dimethyl ammonium chloride	7173-51-5	2.00000	0.00001	None
			Alkyl dimethyl ammonium chloride	68424-85-1	1.30000	0.00001	None
			Ethylene glycol	107-21-1	20.00000	0.00001	None
			Methyl Alcohol	67-56-1	17.00000	0.00001	None
			Acetic Acid	64-19-7	5.00000	0.00001	None
			N, N-dimethylformamide	68-12-2	13.00000	0.00000	None
			Cinnamaldehyde	104-55-2	7.00000	0.00000	None
			2-Butoxyethanol	111-76-2	7.00000	0.00000	None
			4-Nonylphenol, branched, ethoxylated	127087-87-0	7.00000	0.00000	None
			Isopropyl alcohol	67-63-0	3.00000	0.00000	None
			Triethyl Phosphate	78-40-0	3.00000	0.00000	None
			Methyl Alcohol	67-56-1	5.00000	0.00000	None

* Total Water Volume sources may include various types of water including fresh water, produced water, and recycled water

** Information is based on the maximum potential for concentration and thus the total may be over 100%

*** If you are calculating a percentage of total ingredients do not add the water volume below the green line to the water volume above the green line

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)