

## Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	11/11/2018
Job End Date:	11/23/2018
State:	Texas
County:	Upton
API Number:	42-461-40901-00-00
Operator Name:	Hunt Oil Company
Well Name and Number:	University 10-3 108HB
Latitude:	31.18373972
Longitude:	-101.83200417
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	8,429
Total Base Water Volume (gal):	15,707,134
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	OneStim	Acid Corrosion Inhibitor, Water Friction Reducing Agent B528, Temporary Clay Stabilizer, Surfactant, Acid, Breaker, Friction Reducer, High Viscosity F					

			Water (Including Mix Water Supplied by Client)*	7732-18-5		89.06194	
Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.							
			Quartz, Crystalline silica	14808-60-7	98.35038	10.75763	
			Acrylamide sodium acrylate copolymer	25085-02-3	0.60794	0.06650	
			Hydrochloric acid	7647-01-0	0.45100	0.04933	
			Sodium chloride	7647-14-5	0.17533	0.01918	
			(2-hydroxyethyl) trimethylammonium chloride	67-48-1	0.12718	0.01391	
			Acrylamide/ammonium acrylate copolymer	26100-47-0	0.06820	0.00746	
			Distillates, petroleum, hydrotreated light	64742-47-8	0.05622	0.00615	
			Polyethylene glycol monohexyl ether	31726-34-8	0.04752	0.00520	
			Magnesium chloride	7786-30-3	0.02657	0.00291	
			Diammonium peroxidisulphate	7727-54-0	0.02473	0.00271	
			Acetic acid	64-19-7	0.02225	0.00243	
			Ammonium chloride	12125-02-9	0.01747	0.00191	
			Oxirane, 2-methyl-, polymer with oxirane	9003-11-6	0.01162	0.00127	
			Distillates (petroleum), solvent-dewaxed heavy paraffinic	64742-65-0	0.01052	0.00115	
			Propan-2-ol	67-63-0	0.00924	0.00101	
			Sorbitan monooleate	1338-43-8	0.00705	0.00077	
			Ethoxylated oleic acid	9004-96-0	0.00639	0.00070	
			Calcium chloride	10043-52-4	0.00409	0.00045	
			Dicoco dimethyl quaternary ammonium chloride	61789-77-3	0.00396	0.00043	
			Alcohols, C12-C16, ethoxylated	68551-12-2	0.00184	0.00020	

			Fatty acid, tall-oil reaction products with acetophenone	68188-40-9	0.00165	0.00018	
			Isodecanol w/6-7 Moles Ethylene Oxide	26183-52-8	0.00093	0.00010	
			Sorbitol Tetraoleate	61723-83-9	0.00093	0.00010	
			C14 alpha olefin ethoxylate	84133-50-6	0.00093	0.00010	
			Sodium sulfocyanate	540-72-7	0.00081	0.00009	
			2-Propenoic acid, ammonium salt	10604-69-0	0.00076	0.00008	
			Alcohols, C10-C16, ethoxylated	68002-97-1	0.00062	0.00007	
			Cinnamaldehyde	104-55-2	0.00060	0.00007	
			Alcohols, C12-C14, ethoxylated	68439-50-9	0.00046	0.00005	
			Amines, dicoco alkylmethyl	61788-62-3	0.00040	0.00004	
			2-Propenamid (impurity)	79-06-1	0.00027	0.00003	
			Amines, tallow alkyl, ethoxylated	61791-26-2	0.00018	0.00002	
			Dodecyl poly (oxyethylene) ether	9002-92-0	0.00007	0.00001	
			Glycols, polyethylene, monotetradecyl ether	27306-79-2	0.00005	0.00001	

\* 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)