

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	1/24/2015
Job End Date:	1/24/2015
State:	Texas
County:	Winkler
API Number:	42-495-33577-00-00
Operator Name:	XTO Energy/ExxonMobil
Well Name and Number:	University Blk 21 #1803H
Longitude:	-103.26544000
Latitude:	31.72280700
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	11,547
Total Base Water Volume (gal):	6,670,133
Total Base Non Water Volume:	195,514



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	Customer	Carrier					
			Water	7732-18-5	100.00000	91.31715	
White 20/40	Trican	Proppant					
			Crystalline silica: Quartz (SiO2)	14808-60-7	100.00000	3.52248	
15% HCL	Trican	Carrier					
			Water	7732-18-5	85.00000	2.43444	
			Hydrochloric acid	7647-01-0	15.00000	0.42961	
Super LC, 20/40 mesh	Trican	Proppant					
			Crystalline silica: Quartz (SiO2)	14808-60-7	97.00000	1.16885	
			Phenolic Resin (Phenol, polymer with formaldehyde)	9003-35-4	5.00000	0.06025	
			hexamethylenetetramine	100-97-0	1.00000	0.01205	
White 40/70	Trican	Proppant					
			Crystalline silica: Quartz (SiO2)	14808-60-7	100.00000	0.67893	
WXB-15 (Borate Crosslinker)	Trican	Crosslinker					
			Petroleum distillate blend	64742-96-7	47.72000	0.02402	
PH-4 (pH control)	Trican	pH Buffer					
			Acetic acid	64-19-7	72.63000	0.01628	
			Ammonium acetate	631-61-8	27.37000	0.00613	

pH-14L (pH Control)	Trican	pH Buffer					
			Sodium hydroxide	1310-73-2	25.00000	0.01908	
S-17 (Surfactant)	Trican	Surfactant					
			Ethylene/propylene oxide polymer	Proprietary	7.00000	0.00480	
			Amine sulfonate	Proprietary	4.90000	0.00336	
			2-Ethylhexanol	104-76-7	2.10000	0.00144	
			alcohols, C11-14-iso, C13- rich ethoxylates	78330-21-9	1.00000	0.00069	
FR-15 (Friction Reducer)	Trican	Friction Reducer					
			Mineral oil/ light hydrotreated pet. distillate	64742-47-8	25.00000	0.00597	
			Alcohols, C12-16, ethoxylated	68551-12-2	5.00000	0.00120	
			Proprietary Amide	Proprietary	2.50000	0.00060	
AI-9 (Acid Inhibitor)	Trican	Acid Inhibitor					
			Methanol	67-56-1	60.00000	0.00331	
			modified thiourea polymer	68527-49-1	30.00000	0.00165	
			Polyoxyalkylenes	68951-67-7	30.00000	0.00165	
			Prop-2-yn-1-ol	107-19-7	10.00000	0.00055	
			olefin	64743-02-8	5.00000	0.00028	
Encap HP (Encapsulated Breaker)	Trican	Breaker					
			ammonium persulfate	7727-54-0	100.00000	0.00506	
			cured acrylic resin	Proprietary	25.00000	0.00127	
			Crystalline silica: Quartz (SiO2)	14808-60-7	15.00000	0.00076	
FEAC-30	Trican	Iron Control					
			Acetic acid	64-19-7	60.00000	0.00420	
			Citric acid	77-92-9	30.00000	0.00210	
WXB-14 (Rapid Borate Crosslinker)	Trican	Crosslinker					
			Potassium hydroxide	1310-58-3	10.00000	0.00449	
WBO-2 (Breaker)	Trican	Breaker					
			Sodium Persulfate	7775-27-1	100.00000	0.00197	
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 Chemicals					
			Ulexite	1319-33-1			
			guar gum	9000-30-0			
			Fatty acids	61790-12-3			
			Silica, Amorphous	112926-00-8			
			2-butoxyethanol	111-76-2			
			propylene carbonate	108-32-7			
			Water	7732-18-5			
			ethoxylated alcohol, C11-14-iso	78330-21-9			
			Tallow alkyldimethylammonium chloride/bentonite complex	71011-25-1			
			Sodium Chloride	7647-14-5			

			modified amidoamine	68990-47-6			
			Potassium borate	12045-78-2			
			Sorbitan monooleate	1338-43-8			
			Copolymer of acrylamide- AETAC	69418-26-4			

* 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)