

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/4/2017
Job End Date:	2/13/2017
State:	Texas
County:	Martin
API Number:	42-317-40606-00-00
Operator Name:	Ajax Resources, LLC
Well Name and Number:	UL MS HZ BLK 6 Unit 4106
Latitude:	32.44248500
Longitude:	-102.19390700
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	8,600
Total Base Water Volume (gal):	19,117,056
Total Base Non Water Volume:	201,023



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	Supplied by Operator	Base Fluid					
			Water	7732-18-5	100.00000	90.20929	
Other Chemical (s)	Listed Above	See Trade Name (s) List					
			Water	7732-18-5	90.00000	0.00097	

			Water	7732-18-5	55.00000	0.01431	
			Water	7732-18-5	81.00000	0.03111	
			Water	7732-18-5	85.00000	0.07639	
			Water	7732-18-5	75.00000	0.00249	
			Water	7732-18-5	30.00000	0.00064	
			Water	7732-18-5	75.00000	0.13878	
			Water	7732-18-5	92.50000	0.52539	
			Water	7732-18-5	60.00000	0.04755	
30/50 White	FTSI	Proppant					
				Listed Below			
40/70 White	FTSI	Proppant					
				Listed Below			
100 Mesh Sand	FTSI	Proppant					
				Listed Below			
FE-100L	FTSI	Scale Inhibitor					
				Listed Below			
KCLS-5	FTSI	Semi-permanent Clay Stabilizer					

				Listed Below			
CS-250 SI	FTSI	Scale Inhibitor					
				Listed Below			
0.1%-7.5% HCL	FTSI	Acid					
				Listed Below			
ICI-3240	FTSI	Biocide					
				Listed Below			
FRW-200	FTSI	Friction reducer					
				Listed Below			
SHALE SURF 1000G	FTSI	Surfactant					
				Listed Below			
NE-100	FTSI	Non-emulsifier					
				Listed Below			
CI-150	FTSI	Acid Corrosion Inhibitor					
				Listed Below			
Items above are Trade Names with the exception of Base Water . Items below are the individual ingredients.							
			Silica, Quartz	14808-60-7	100.00000	6.19004	
			Silica, Quartz	14808-60-7	100.00000	2.54427	
			Silica, Quartz	14808-60-7	100.00000	0.06330	

			Hydrogen Chloride	7647-01-0	7.50000	0.04260	
			Choline Chloride	67-48-1	20.00000	0.03701	
			Trade Secret	Proprietary	15.00000	0.02776	
			Copolymer of acrylamide and sodium acrylate	25987-30-8	33.00000	0.02615	
			Petroleum distillate hydrotreated light	64742-47-8	30.00000	0.02377	
			Acrylamide P/W acrylic acid, ammonium salt	26100-47-0	25.00000	0.01981	
			Ethoxylated Alcohol	Proprietary	20.00000	0.01797	
			Poly-(oxy-1,2-ethanediyl)-alpha-undecyl-omega	34398-01-1	11.00000	0.00989	
			Ammonium Chloride	12125-02-9	12.00000	0.00951	
			2-Propanol	67-63-0	10.00000	0.00899	
			Cyclohexene	5989-27-5	10.00000	0.00899	
			Dazomet (Tetrahydro-3,5-dimethyl-2H-1,3,5-thiadiazine-2-thione.	533-74-4	24.00000	0.00624	
			Sodium Hydroxide	1310-73-2	23.00000	0.00598	
			Surfactant	Proprietary	7.00000	0.00555	
			Ethylene glycol	107-21-1	13.00000	0.00499	
			Sorbitan, monooctadecanoate, poly(oxy-1,2-ethanediyl) Sorbitan, monooctadecanoate, poly(oxy-1,2-ethanediyl) derivs.	9005-67-8	5.00000	0.00396	
			Hydrotreated heavy paraffinic	64742-54-7	5.00000	0.00396	
			Sodium chloride	7647-14-5	10.00000	0.00384	
			Sodium Polyacrylate	9003-04-7	10.00000	0.00384	
			Alcohols (C12-C14), ethoxylated	68439-50-9	4.00000	0.00317	
			Alcohols (C10-C16), ethoxylated	68002-97-1	4.00000	0.00317	

			Alcohols (C12-C16), ethoxylated	68551-12-2	4.00000	0.00317	
			Sorbitan Monooleate	1338-43-8	3.00000	0.00238	
			Polyethylene glycol monooleate	9004-96-0	3.00000	0.00238	
			Citric Acid	77-92-9	50.00000	0.00166	
			Sorbitol Tetraoleate	61723-83-9	2.00000	0.00158	
			Citrus Terpenes	68647-72-3	1.50000	0.00135	
			Isopropanol	67-63-0	60.00000	0.00128	
			Methanol	67-56-1	60.00000	0.00128	
			Dewaxed heavy paraffinic	64742-65-0	1.50000	0.00119	
			Oleic Acid Diethanolamide	93-83-4	1.50000	0.00119	
			Alkyloxypolyethyleneoxy ethanol	84133-50-6	1.00000	0.00079	
			Aromatic aldehyde	Proprietary	30.00000	0.00064	
			Aromatic Ketone compound	Proprietary	30.00000	0.00064	
			Ethylene Glycol	107-21-1	30.00000	0.00064	
			Fatty amino compound salt	Proprietary	30.00000	0.00064	
			Organic amine resin salt	Proprietary	30.00000	0.00064	
			Ethoxylated fatty alcohol	Proprietary	30.00000	0.00064	
			Ammonium Acrylate	10604-69-0	0.50000	0.00040	
			Ethylene glycol	107-21-1	10.00000	0.00033	
			Isopropanol	67-63-0	0.30000	0.00024	
			Polyalkylene glycol	Proprietary	10.00000	0.00021	
			Ethoxylated Alcohols	Proprietary	10.00000	0.00021	
			Alkylene Oxide Block Polymer	Proprietary	10.00000	0.00021	
			Dimethylformamide	68-12-2	10.00000	0.00021	
			Quaternary ammonium compound	Proprietary	10.00000	0.00021	
			2-Propanol	67-63-0	10.00000	0.00011	

			2-Butoxyethanol	111-76-2	10.00000	0.00011	
			Acetic Acid	64-19-7	5.00000	0.00011	
			Acetophenone	98-86-2	5.00000	0.00011	
			Oxyalkylated Fatty Amine	Proprietary	5.00000	0.00011	
			Oxyalkylated Alcohol	Proprietary	5.00000	0.00011	
			Formaldehyde	50-00-0	5.00000	0.00011	
			Acrylamide	79-06-1	0.10000	0.00008	
			Dodecylbenzenesulfonic acid	27176-87-0	5.00000	0.00005	
			Diethylene glycol	111-46-6	1.00000	0.00002	
			Aliphatic alcohol	Proprietary	0.10000	0.00000	
			Fatty Acid Salt	Proprietary	0.10000	0.00000	
			Fatty Acid	Proprietary	0.10000	0.00000	
			Aromatic Aldehyde	Proprietary			

* 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)