

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	8/14/2017
Job End Date:	8/18/2017
State:	New Mexico
County:	Eddy
API Number:	30-015-44101-00-00
Operator Name:	COG Operating LLC
Well Name and Number:	Burch Keely Unit 962H
Latitude:	32.82635100
Longitude:	-104.01965900
Datum:	NAD27
Federal Well:	NO
Indian Well:	NO
True Vertical Depth:	4,925
Total Base Water Volume (gal):	5,858,160
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	Operator	Carrier/Base Fluid	Water	7732-18-5	100.00000	88.47221	None
Sand (Proppant)	TSS	Proppant					
			Silica Substrate	14808-60-7	100.00000	9.10025	None
15% HCL	Reagent	Acidizing					
			Hydrochloric Acid	7647-01-0	15.00000	0.33274	None
Plexsilk 957	Chemplex	Friction Reducer					
			Poly (acrylamide-co-acrylic acid), partial sodium salt	62649-23-4	35.00000	0.03069	None
			Paraffinic, Naphthenic Solvent	64742-47-8	30.00000	0.02631	None
			Ammonium Chloride	12125-02-9	5.00000	0.00438	None
			Nonionic Surfactants	Proprietary	1.50000	0.00132	None
Chemplex 4-N-1	Chemplex	Combination/Iron Control					
			Acetic Acid	64-19-7	85.00000	0.02910	None
			Methyl Alcohol	67-56-1	10.00000	0.00342	None
			2-Ethylhexanol	104-76-7	10.00000	0.00342	None
			Alcohol Ethoxylate Surfactants	Proprietary	2.00000	0.00068	None



			thiourea-formaldehyde copolymer	68527-49-1	2.00000	0.00068	None
			Diethanolamine	111-42-2	2.00000	0.00068	None
			Cocamide Diethanolamine Salt	68603-42-9	2.00000	0.00068	None
			n-olefins	Proprietary	1.00000	0.00034	None
			Propargyl Alcohol	107-19-7	1.00000	0.00034	None
Plexsurf 240E	Chemplex	Non Ionic Surfactant					
			Alcohol Alkoxylate	Proprietary	20.00000	0.00893	None
			Methyl Alcohol	67-56-1	20.00000	0.00893	None
Plexgel Breaker XPA	Chemplex	Breaker					
			Hydrogen Peroxide	7722-84-1	7.00000	0.00299	None
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 Chemical(s)	Listed Above	See Trade Name(s) List					
			Poly (acrylamide-co-acrylic acid), partial sodium salt	62649-23-4	35.00000	0.03069	
			Acetic Acid	64-19-7	85.00000	0.02910	
			Paraffinic, Naphthenic Solvent	64742-47-8	30.00000	0.02631	
			Alcohol Alkoxylate	Proprietary	20.00000	0.00893	
			Methyl Alcohol	67-56-1	10.00000	0.00342	
			Nonionic Surfactants	Proprietary	1.50000	0.00132	
			Alcohol Ethoxylate Surfactants	Proprietary	2.00000	0.00068	
			thiourea-formaldehyde copolymer	68527-49-1	2.00000	0.00068	
			Cocamide Diethanolamine Salt	68603-42-9	2.00000	0.00068	
			Diethanolamine	111-42-2	2.00000	0.00068	
			Propargyl Alcohol	107-19-7	1.00000	0.00034	
			n-olefins	Proprietary	1.00000	0.00034	

* 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)