

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	11/9/2014
Job End Date:	11/20/2014
State:	Texas
County:	Crockett
API Number:	42-105-41761-00-00
Operator Name:	Devon Energy Production Company L.P.
Well Name and Number:	UNIVERSITY 52-23 11H
Longitude:	-100.97829000
Latitude:	31.02486000
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	5,727
Total Base Water Volume (gal):	13,510,829
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					
			Water	7732-18-5	100.00000	87.07770	
Sand, White, 40/70	Baker Hughes	Proppant					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		8.83680	
Sand, White, 100 mesh	Baker Hughes	Proppant					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		3.16213	
HCl, 5.1 - 7.5%	Baker Hughes	Acidizing					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.64172	SmartCare Product
MaxPerm-20A, 265 gallon tote	Baker Hughes	Friction Reducer					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.10601	SmartCare Product
NE-35, 330 gl tote	Baker Hughes	Non-emulsifier					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.04372	
Alpha 1427	Baker Hughes	Biocide					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.02201	SmartCare Product
HCl, 10.1 - 15%	Baker Hughes	Acidizing					

			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.02128	SmartCare Product
GBW-5	Baker Hughes	Breaker					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.00505	SmartCare Product
ScaleSorb 3, (50# bag)	Baker Hughes	Scale Inhibitor					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.00368	SmartCare Product
Ferrotrol 280L , 330 gl tote	Baker Hughes	Clay Control					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.00116	SmartCare Product
CI-27	Baker Hughes	Corrosion Inhibitor					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.00114	
High Perm CRB	Baker Hughes	Breaker					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.00004	SmartCare Product
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.							
Ingredients in Additive (s) (MSDS and non- MSDS)	Baker Hughes	See Trade Name(s) List					
			Crystalline Silica (Quartz)	14808-60-7	100.00000	11.98840	
			Water	7732-18-5	92.50000	0.72297	
			1-Propanesulfonic acid, 2- methyl-2-[(1-oxo-2-propen-1-yl) amino]-, polymer with 2- propenamide, sodium salt	83446-68-8	60.00000	0.06355	
			Hydrochloric Acid	7647-01-0	15.00000	0.05128	
			Hydrotreated Light Distillate	64742-47-8	30.00000	0.03177	
			Nonionic glycol ester	68400-71-5	25.00000	0.01092	
			Glutaraldehyde	111-30-8	30.00000	0.00660	
			Propylene Glycol	57-55-6	15.00000	0.00655	
			Sodium Chloride	7647-14-5	5.00000	0.00530	
			Oxyalkylated alcohol	78330-21-9	5.00000	0.00530	
			Sorbitan, mono-(9Z)-9- octadecenoate	1338-43-8	5.00000	0.00530	
			Polyoxyethylene sorbitan monooleate	9005-65-6	5.00000	0.00530	
			Ammonium Persulphate	7727-54-0	100.00000	0.00508	
			Diatomaceous Earth, Calcined	91053-39-3	74.00000	0.00272	
			Didecyl Dimethyl Ammonium Chloride	7173-51-5	10.00000	0.00220	
			Sodium octylimodpropionate	94441-92-6	3.00000	0.00131	
			2-Mercaptoethanol	60-24-2	100.00000	0.00116	
			Ethanol	64-17-5	5.00000	0.00110	
			Quaternary Ammonium Compound	68424-85-1	5.00000	0.00110	
			Amino Trimethylene Phosphonic Acid	6419-19-8	28.00000	0.00103	
			Benzenesulfonic acid, hexadecyl (sulfophenoxy)-, disodium salt	65143-89-7	2.00000	0.00087	
			Methanol	67-56-1	60.00000	0.00068	

		Sodium lauriminodipropionate	14960-06-6	1.00000	0.00044
		Thiourea Polymer	68527-49-1	30.00000	0.00034
		Polyoxyalkylenes	68951-67-7	30.00000	0.00034
		Fatty Acids	61790-12-3	30.00000	0.00034
		Propargyl Alcohol	107-19-7	10.00000	0.00011
		Ammonium Hydroxide	1336-21-6	5.00000	0.00006
		Cupric Chloride	7447-39-4	5.00000	0.00006
		Olefin	64743-02-8	5.00000	0.00006
		Phosphonic Acid	13598-36-2	1.00000	0.00004
		Crystalline Silica: Cristobalite	14464-46-1	1.00000	0.00004
		Vinylidene Chloride-Methyl Acrylate Polymer	25038-72-6	25.00000	0.00001
		Formaldehyde	50-00-0	0.05000	0.00000
		Hydrated Magnesium Silicate	14807-96-6	1.00000	0.00000
		Poly (Tetrafluoroethylene)	9002-84-0	0.50000	0.00000

* 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)