

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/25/2015
Job End Date:	3/2/2015
State:	Texas
County:	Reagan
API Number:	42-383-39282-00-00
Operator Name:	Devon Energy Production Company L.P.
Well Name and Number:	UNIVERSITY 43-5 1H
Longitude:	-101.28548000
Latitude:	31.14719000
Datum:	NAD27
Federal/Tribal Well:	NO
True Vertical Depth:	6,898
Total Base Water Volume (gal):	4,474,268
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	86.13339	
Sand, White, 20/40	Baker Hughes	Proppant					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		8.55260	
Sand, White, 100 mesh	Baker Hughes	Proppant					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		3.49036	
HCl, 5.1 - 7.5%	Baker Hughes	Acidizing					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		1.02005	SmartCare Product
GW-4LDF	Baker Hughes	Gelling Agent					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.16828	
MaxPerm-20A, 265 gallon tote	Baker Hughes	Friction Reducer					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.06528	SmartCare Product
HCl, 10.1 - 15%	Baker Hughes	Acidizing					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.06368	SmartCare Product
BF-9L, 300 gal tote	Baker Hughes	Buffer					

			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.05851	SmartCare Product
NE-35, 330 gl tote	Baker Hughes	Non-emulsifier					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.04631	
Alpha 1427	Baker Hughes	Biocide					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.03466	SmartCare Product
XLW-30G, tote	Baker Hughes	Crosslinker					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.03404	
Enzyme G-II	Baker Hughes	Breaker					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.03308	SmartCare Product
GW-4	Baker Hughes	Gelling Agent					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.02952	SmartCare Product
XLW-4	Baker Hughes	Crosslinker					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.01864	
Scaletrol 720, 330 gl tote	Baker Hughes	Scale Inhibitor					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.00988	SmartCare Product
High Perm CRB	Baker Hughes	Breaker					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.00810	SmartCare Product
Ferrotrol 280L , 330 gl tote	Baker Hughes	Clay Control					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.00372	SmartCare Product
CI-27	Baker Hughes	Corrosion Inhibitor					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.00191	
GBW-5	Baker Hughes	Breaker					
			MSDS and Non-MSDS Ingredients Listed Below	N/A		0.00139	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	12.01137	
			Water	7732-18-5	97.00000	1.19376	
			Guar Gum	9000-30-0	100.00000	0.13014	
			Mineral Oil	8042-47-5	70.00000	0.11749	
			Hydrochloric Acid	7647-01-0	15.00000	0.08583	
			Hydrotreated Light Distillate	64742-47-8	30.00000	0.06989	
			Paraffinic Petroleum Distillate	64742-55-8	30.00000	0.05035	
			1-Propanesulfonic acid, 2- methyl-2-[(1-oxo-2-propen-1-yl) amino]-, polymer with 2- propenamide, sodium salt	83446-68-8	60.00000	0.03907	
			Potassium Carbonate	584-08-7	60.00000	0.03501	

		Potassium Hydroxide	1310-58-3	30.00000	0.01751
		Ulexite Mineral	1319-33-1	40.00000	0.01358
		Nonionic glycol ester	68400-71-5	25.00000	0.01155
		Glutaraldehyde	111-30-8	30.00000	0.01037
		Potassium Formate	590-29-4	30.00000	0.01018
		Ammonium Persulphate	7727-54-0	100.00000	0.00947
		Propylene Glycol	57-55-6	15.00000	0.00693
		Sodium Tetraborate	1303-96-4	30.00000	0.00558
		Glycerin	8043-29-6	25.00000	0.00465
		Ethylene Glycol	107-21-1	45.00000	0.00443
		2-Mercaptoethanol	60-24-2	100.00000	0.00371
		Didecyl Dimethyl Ammonium Chloride	7173-51-5	10.00000	0.00346
		Sodium Chloride	7647-14-5	5.00000	0.00336
		Polyoxyethylene sorbitan monooleate	9005-65-6	5.00000	0.00326
		Sorbitan, mono-(9Z)-9-octadecenoate	1338-43-8	5.00000	0.00326
		Oxyalkylated alcohol	78330-21-9	5.00000	0.00326
		Vinylidene Chloride-Methyl Acrylate Polymer	25038-72-6	25.00000	0.00202
		2-Propenoic, Polymer with Sodium Phosphinate, Sodium Salt	71050-62-9	20.00000	0.00197
		Quaternary Ammonium Compound	68424-85-1	5.00000	0.00173
		Ethanol	64-17-5	5.00000	0.00173
		Sodium octylimodlpropionate	94441-92-6	3.00000	0.00139
		Methanol	67-56-1	60.00000	0.00114
		Clay	12174-11-7	3.00000	0.00102
		Hemicellulase Enzyme Concentrate	9025-56-3	3.00000	0.00099
		Benzenesulfonic acid, hexadecyl (sulfophenoxy)-, disodium salt	65143-89-7	2.00000	0.00092
		Cellulose	9004-32-4	2.00000	0.00068
		Fatty Acids	61790-12-3	30.00000	0.00057
		Polyoxyalkylenes	68951-67-7	30.00000	0.00057
		Thiourea Polymer	68527-49-1	30.00000	0.00057
		Calcium Chloride	10043-52-4	5.00000	0.00049
		Sodium lauriminodipropionate	14960-06-6	1.00000	0.00046
		Sodium glycolate	2836-32-0	1.00000	0.00034
		Crystalline Silica Quartz	14808-60-7	1.00000	0.00034
		Sodium chloride	7647-14-5	1.00000	0.00034
		Acrylamide-acrylic acid copolymer, sulfomethylated,	EPA Acct 108431	1.00000	0.00034
		Sodium bisulfate	7681-38-1	1.00000	0.00034
		Sodium formaldehyde bisulfate	870-72-4	1.00000	0.00034
		Propargyl Alcohol	107-19-7	10.00000	0.00019
		Ammonium Hydroxide	1336-21-6	5.00000	0.00019
		Cupric Chloride	7447-39-4	5.00000	0.00019

		Potassium Chloride	7447-40-7	1.00000	0.00010	
		Olefin	64743-02-8	5.00000	0.00010	
		Hydrated Magnesium Silicate	14807-96-6	1.00000	0.00008	
		Poly (Tetrafluoroethylene)	9002-84-0	0.50000	0.00004	
		Formaldehyde	50-00-0	0.05000	0.00000	
		5-Chloro-2-methyl-3(2H)- Isothiazolone	26172-55-4	0.00100	0.00000	
		Magnesium nitrate	10377-60-3	0.00100	0.00000	
		2-methyl-4-isothiazolin-3-one	2682-20-4	0.00100	0.00000	
		Magnesium chloride	7786-30-3	0.00100	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)