

Hydraulic Fracturing Fluid Product Component Information Disclosure

Job Start Date:	2/26/2013
Job End Date:	3/3/2013
State:	Pennsylvania
County:	Allegheny
API Number:	37-003-22227-00-01
Operator Name:	Range Resources Corporation
Well Name and Number:	Schiller, Gerald Unit #4H
Longitude:	-79.78661700
Latitude:	40.61626900
Datum:	NAD83
Federal/Tribal Well:	NO
Total Base Water Volume (gal):	6,030,812
Total Base Non Water Volume:	



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
37% HCL	FracTech	Cleans Perforation					
			HCL	7647-01-0	37.00000	0.02515	
MC B-8520	Multichem	Antibacterial Agent					
			4,4-Dimethyloxazolidine	51200-87-4	78.00000	0.01388	
			3,4,4-Trimethyloxazolidine	75673-43-7	5.00000	0.00089	
			2-Amino-2-methyl-1-propanol	124-68-5	1.00000	0.00018	
			Formaldehyde Amine	56652-26-7	0.50000	0.00009	
MC B-8650	Multichem	Antibacterial Agent					
			Glutaraldehyde	111-30-8	50.00000	0.00390	
			Methanol	67-56-1	0.50000	0.00004	
CI-100	FracTech	Corrosion Inhibitor					
			Methanol	67-56-1	95.00000	0.00053	
			Propargyl Alcohol	107-19-7	5.00000	0.00003	

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.

* 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)

