

Summary of Hydraulic Fracture Solutions - West Virginia

<u>Company</u>	<u>Composition</u>	<u>Components</u>	<u>Mass %</u>
Schlumberger	#1	Water	99.82%
		Sodium Chloride	<0.05%
		Magnesium chloride	<0.04%
		Amphoteric alkyl amine	<0.03%
		Calcium magnesium sodium phosphate	<0.021%
		Propan-2-ol	<0.015%
		Acrylamide copolymer	<0.015%
		Ammonium sulfate	<0.01%
		Sodium sulfate	<0.004%
		Potassium chloride	<0.002%
		Urea	<0.001%
		Noncrystalline silica	<0.0001%
		Dimethyl siloxanes and silicones	<0.0001%
	#2	Water	99.70%
		Guar gum	<0.16%
		Sodium chloride	<0.05%
		Magnesium chloride	<0.04%
		Amphoteric alkyl amine	<0.03%
		Calcium magnesium sodium phosphate	<0.03%
		Propan-2-ol	<0.02%
		Calcium chloride	<0.01%
		Potassium chloride	<0.01%
		Noncrystalline silica	<0.002%
		Hemicellulase enzyme	<0.001%
	#3	Water	99.57%
		Guar gum	<0.16%
		Boric acid	<0.08%
		Sodium hydroxide	<0.06%
		Sodium chloride	<0.05%
		Magnesium chloride	<0.04%
		Amphoteric alkyl amine	<0.03%
		Calcium magnesium sodium phosphate	<0.03%
		Propan-2-ol	<0.02%
		Calcium chloride	<0.01%
		Potassium chloride	<0.02%
		Noncrystalline silica	<0.002%
		Hemicellulase enzyme	<0.001%