



Proposed MAM15 Hydraulic Fracturing Fluid Additives

Ingredients	Chemical Abstract Service Number (CAS #)	% of Total Usage (by Mass)
Water	7732-18-5	85.74795%
Crystalline Silica in the form of Quartz	14808-60-7	14.05368%
ACRYLAMIDE-CHLORIDE SALT OF TRIMETHYLAMMONIO-ETHYL ACRYLATE COPOLYMER	69418-26-4	0.04627%
ALKANES, C12-26-BRANCHED AND LINEAR	90622-53-0	0.04627%
Hydrogen chloride	7647-01-0	0.02230%
ETHOXYLATED ALCOHOLS (C12-16)	68551-12-2	0.00578%
Glutaraldehyde	111-30-8	0.00212%
AA/ATBS Co-polymer	5/8/03	0.00176%
AA/Maleic Anhydride Co-polymer	4/7/03	0.00035%
Didecyl dimethyl ammonium chloride	7173-51-5	0.00032%
Quaternary Ammonium Compounds	68424-85-1	0.00032%
Citric acid	77-92-9	0.00028%
Methyl alcohol	67-56-1	0.00028%
Ethanol	64-17-5	0.00016%
Ethylene glycol	107-21-1	0.00008%
N,N-Dimethylformamide	68-12-2	0.00004%
2-Butoxyethanol	111-76-2	0.00002%
Cinnamaldehyde	104-55-2	0.00002%
Poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched	127087-87-0	0.00002%
Tar Bases, quinoline derivs, benzyl chloride-quat	72480-70-7	0.00002%

Additive	Specific Gravity	Additive Quantity	Unit
Water	1.00	33,011,034	gal
StimSTREAM 9800	1.08	41,263	gal
Clearal 268	1.03	3,961	gal
StimStream SC 398	1.03	13,204	gal
ACI-150	0.88	174	gal
Citric Acid 50%	1.23	174	gal
HCL Acid (28%)	1.14	26,919	gal
Sand	2.65	45,225,000	lbs