



Proposed MAM14HHSU Hydraulic Fracturing Fluid Additives

Ingredients	Chemical Abstract Service Number (CAS #)	% of Total Usage (by Mass)
Water	7732-18-5	85.67127%
Crystalline Silica in the form of Quartz	14808-60-7	14.05910%
Hydrogen chloride	7647-01-0	0.02408%
Methyl alcohol	67-56-1	0.00030%
N,N-Dimethylformamide	68-12-2	0.00004%
Ethylene glycol	107-21-1	0.00009%
2-Butoxyethanol	111-76-2	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%
Cinnamaldehyde	104-55-2	0.00002%
Citric acid	77-92-9	0.00030%
Glutaraldehyde	111-30-8	0.00212%
Didecyl dimethyl ammonium chloride	7173-51-5	0.00032%
Quaternary Ammonium Compounds	68424-85-1	0.00032%
Ethanol	64-17-5	0.00016%
Distillates (petroleum), hydrotreated light	64742-47-8	0.03181%
Alcohols, C11-14-iso-, C13-rich, ethoxylated	78330-21-9	0.00636%
AA/ATBS Co-polymer	9003-05-8	0.00154%
AA/Maleic Anhydride Co-polymer	9003-04-7	0.00154%



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Ingredients	Chemical Abstract Service Number (CAS #)	% of Total Usage (by Mass)
Water	7732-18-5	85.84181%
Crystalline Silica in the form of Quartz	14808-60-7	13.88066%
Hydrogen chloride	7647-01-0	0.02622%
Methyl alcohol	67-56-1	0.00033%
N,N-Dimethylformamide	68-12-2	0.00005%
Ethylene glycol	107-21-1	0.00009%
2-Butoxyethanol	111-76-2	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%
Cinnamaldehyde	104-55-2	0.00002%
Citric acid	77-92-9	0.00033%
Glutaraldehyde	111-30-8	0.00212%
Didecyl dimethyl ammonium chloride	7173-51-5	0.00032%
Quaternary Ammonium Compounds	68424-85-1	0.00032%
Ethanol	64-17-5	0.00016%
Distillates (petroleum), hydrotreated light	64742-47-8	0.03187%
Alcohols, C11-14-iso-, C13-rich, ethoxylated	78330-21-9	0.00637%
AA/ATBS Co-polymer	9003-05-8	0.00154%
AA/Maleic Anhydride Co-polymer	9003-04-7	0.00154%



Proposed MAM14NHSU Hydraulic Fracturing Fluid Additives

Ingredients	Chemical Abstract Service Number (CAS #)	% of Total Usage (by Mass)
Water	7732-18-5	85.69508%
Crystalline Silica in the form of Quartz	14808-60-7	14.03482%
Hydrogen chloride	7647-01-0	0.02420%
Methyl alcohol	67-56-1	0.00030%
N,N-Dimethylformamide	68-12-2	0.00004%
Ethylene glycol	107-21-1	0.00009%
2-Butoxyethanol	111-76-2	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%
Cinnamaldehyde	104-55-2	0.00002%
Citric acid	77-92-9	0.00030%
Glutaraldehyde	111-30-8	0.00212%
Didecyl dimethyl ammonium chloride	7173-51-5	0.00032%
Quaternary Ammonium Compounds	68424-85-1	0.00032%
Ethanol	64-17-5	0.00016%
Distillates (petroleum), hydrotreated light	64742-47-8	0.03181%
Alcohols, C11-14-iso-, C13-rich, ethoxylated	78330-21-9	0.00636%
AA/ATBS Co-polymer	9003-05-8	0.00154%
AA/Maleic Anhydride Co-polymer	9003-04-7	0.00154%