Proposed NV113AHSM Hydraulic Fracturing Fluid Additives

Ingredients	Chemical Abstract Service Number (CAS #)	% of Total Usage (by Mass)
Water	7732-18-5	83.74152%
Crystalline Silica in the form of Quartz	14808-60-7	16.07696%
Acrylamide-Chloride Salt of Trimethylammonio-Ethyl Acrylate Copolymer	69418-26-4	0.03435%
Alkanes, C12-26-Branched and Linear	90622-53-0	0.03435%
Hydrogen chloride	7647-01-0	0.02451%
Ethoxylated Alcohols (C12-16)	68551-12-2	0.00429%
Glutaraldehyde	111-30-8	0.00207%
AA/Maleic Anhydride Co-polymer	9003-04-7	0.00064%
AA/ATBS Co-polymer	9003-05-8	0.00064%
Quaternary Ammonium Compounds	68424-85-1	0.00031%
Didecyl dimethyl ammonium chloride	7173-51-5	0.00031%
Citric acid	77-92-9	0.00031%
Methyl alcohol	67-56-1	0.00031%
Ethanol	64-17-5	0.00016%
Ethylene glycol	107-21-1	0.00009%
N,N-Dimethylformamide	68-12-2	0.00004%
Cinnamaldehyde	104-55-2	0.00002%
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%

Additive	Specific Gravity	Additive Quantity	Unit
Water	1.00	33,721,422	gal
StimSTREAM FR 9800	1.08	32,035	gal
Clearal 268	1.03	4,047	gal
StimSTREAM SC 405	1.03	5,058	gal
ACI-150	0.88	200	gal
Citric Acid 50%	1.23	200	gal
HCL Acid (28%)	1.14	30,938	gal
Sand	2.65	54,100,000	lbs

Proposed NV113BHSM Hydraulic Fracturing Fluid Additives

Ingredients	Chemical Abstract Service Number (CAS #)	% of Total Usage (by Mass)
Water	7732-18-5	83.42884%
Crystalline Silica in the form of Quartz	14808-60-7	16.37197%
Acrylamide-Chloride Salt of Trimethylammonio-Ethyl Acrylate Copolymer	69418-26-4	0.03423%
Alkanes, C12-26-Branched and Linear	90622-53-0	0.03423%
Hydrogen chloride	7647-01-0	0.02942%
Ethoxylated Alcohols (C12-16)	68551-12-2	0.00428%
Glutaraldehyde	111-30-8	0.00206%
AA/Maleic Anhydride Co-polymer	9003-04-7	0.00064%
AA/ATBS Co-polymer	9003-05-8	0.00064%
Citric acid	77-92-9	0.00037%
Methyl alcohol	67-56-1	0.00037%
Quaternary Ammonium Compounds	68424-85-1	0.00031%
Didecyl dimethyl ammonium chloride	7173-51-5	0.00031%
Ethanol	64-17-5	0.00015%
Ethylene glycol	107-21-1	0.00010%
N,N-Dimethylformamide	68-12-2	0.00005%
Cinnamaldehyde	104-55-2	0.00003%
2-Butoxyethanol	111-76-2	0.00003%
Poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched	127087-87-0	0.00003%
Tar Bases, quinoline derivs, benzyl chloride-quat	72480-70-7	0.00003%

Additive	Specific Gravity	Additive Quantity	Unit
Water	1.00	27,633,648	gal
StimSTREAM FR 9800	1.08	26,252	gal
Clearal 268	1.03	3,316	gal
StimSTREAM SC 405	1.03	4,145	gal
ACI-150	0.88	197	gal
Citric Acid 50%	1.23	197	gal
HCL Acid (28%)	1.14	30,536	gal
Sand	2.65	45,316,000	lbs

Proposed NV113CHSM Hydraulic Fracturing Fluid Additives

Ingredients	Chemical Abstract Service Number (CAS #)	% of Total Usage (by Mass)
Water	7732-18-5	83.52733%
Crystalline Silica in the form of Quartz	14808-60-7	16.27054%
Acrylamide-Chloride Salt of Trimethylammonio-Ethyl Acrylate Copolymer	69418-26-4	0.03427%
Alkanes, C12-26-Branched and Linear	90622-53-0	0.03427%
Hydrogen chloride	7647-01-0	0.03024%
Ethoxylated Alcohols (C12-16)	68551-12-2	0.00428%
Glutaraldehyde	111-30-8	0.00206%
AA/Maleic Anhydride Co-polymer	9003-04-7	0.00064%
AA/ATBS Co-polymer	9003-05-8	0.00064%
Citric acid	77-92-9	0.00038%
Methyl alcohol	67-56-1	0.00038%
Quaternary Ammonium Compounds	68424-85-1	0.00031%
Didecyl dimethyl ammonium chloride	7173-51-5	0.00031%
Ethanol	64-17-5	0.00015%
Ethylene glycol	107-21-1	0.00011%
N,N-Dimethylformamide	68-12-2	0.00005%
Cinnamaldehyde	104-55-2	0.00003%
2-Butoxyethanol	111-76-2	0.00003%
Poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched	127087-87-0	0.00003%
Tar Bases, quinoline derivs, benzyl chloride-quat	72480-70-7	0.00003%

Additive	Specific Gravity	Additive Quantity	Unit
Water	1.00	20,186,712	gal
StimSTREAM FR 9800	1.08	19,177	gal
Clearal 268	1.03	2,422	gal
StimSTREAM SC 405	1.03	3,028	gal
ACI-150	0.88	148	gal
Citric Acid 50%	1.23	148	gal
HCL Acid (28%)	1.14	22,902	gal
Sand	2.65	32,860,000	lbs

Proposed NV113DHSM Hydraulic Fracturing Fluid Additives

Ingredients	Chemical Abstract Service Number (CAS #)	% of Total Usage (by Mass)
Water	7732-18-5	83.29264%
Crystalline Silica in the form of Quartz	14808-60-7	16.51032%
Acrylamide-Chloride Salt of Trimethylammonio-Ethyl Acrylate Copolymer	69418-26-4	0.03417%
Alkanes, C12-26-Branched and Linear	90622-53-0	0.03417%
Hydrogen chloride	7647-01-0	0.02882%
Ethoxylated Alcohols (C12-16)	68551-12-2	0.00427%
Glutaraldehyde	111-30-8	0.00206%
AA/Maleic Anhydride Co-polymer	9003-04-7	0.00064%
AA/ATBS Co-polymer	9003-05-8	0.00064%
Citric acid	77-92-9	0.00036%
Methyl alcohol	67-56-1	0.00036%
Quaternary Ammonium Compounds	68424-85-1	0.00031%
Didecyl dimethyl ammonium chloride	7173-51-5	0.00031%
Ethanol	64-17-5	0.00015%
Ethylene glycol	107-21-1	0.00010%
N,N-Dimethylformamide	68-12-2	0.00005%
Cinnamaldehyde	104-55-2	0.00003%
2-Butoxyethanol	111-76-2	0.00003%
Poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched	127087-87-0	0.00003%
Tar Bases, quinoline derivs, benzyl chloride-quat	72480-70-7	0.00003%

Additive	Specific Gravity	Additive Quantity	Unit
Water	1.00	12,969,936	gal
StimSTREAM FR 9800	1.08	12,321	gal
Clearal 268	1.03	1,556	gal
StimSTREAM SC 405	1.03	1,945	gal
ACI-150	0.88	91	gal
Citric Acid 50%	1.23	91	gal
HCL Acid (28%)	1.14	14,063	gal
Sand	2.65	21,484,000	lbs

Proposed NV113EHSM Hydraulic Fracturing Fluid Additives

Ingredients	Chemical Abstract Service Number (CAS #)	% of Total Usage (by Mass)
Water	7732-18-5	83.28994%
Crystalline Silica in the form of Quartz	14808-60-7	16.51317%
Acrylamide-Chloride Salt of Trimethylammonio-Ethyl Acrylate Copolymer	69418-26-4	0.03417%
Alkanes, C12-26-Branched and Linear	90622-53-0	0.03417%
Hydrogen chloride	7647-01-0	0.02878%
Ethoxylated Alcohols (C12-16)	68551-12-2	0.00427%
Glutaraldehyde	111-30-8	0.00206%
AA/Maleic Anhydride Co-polymer	9003-04-7	0.00064%
AA/ATBS Co-polymer	9003-05-8	0.00064%
Citric acid	77-92-9	0.00036%
Methyl alcohol	67-56-1	0.00036%
Quaternary Ammonium Compounds	68424-85-1	0.00031%
Didecyl dimethyl ammonium chloride	7173-51-5	0.00031%
Ethanol	64-17-5	0.00015%
Ethylene glycol	107-21-1	0.00010%
N,N-Dimethylformamide	68-12-2	0.00005%
Cinnamaldehyde	104-55-2	0.00003%
2-Butoxyethanol	111-76-2	0.00003%
Poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched	127087-87-0	0.00003%
Tar Bases, quinoline derivs, benzyl chloride-quat	72480-70-7	0.00003%

Additive	Specific Gravity	Additive Quantity	Unit
Water	1.00	13,358,394	gal
StimSTREAM FR 9800	1.08	12,690	gal
Clearal 268	1.03	1,603	gal
StimSTREAM SC 405	1.03	2,004	gal
ACI-150	0.88	93	gal
Citric Acid 50%	1.23	93	gal
HCL Acid (28%)	1.14	14,464	gal
Sand	2.65	22,132,000	lbs

Proposed NV113FHSM Hydraulic Fracturing Fluid Additives

Ingredients	Chemical Abstract Service Number (CAS #)	% of Total Usage (by Mass)
Water	7732-18-5	84.08476%
Crystalline Silica in the form of Quartz	14808-60-7	15.69753%
Hydrogen chloride	7647-01-0	0.03458%
Acrylamide-Chloride Salt of Trimethylammonio-Ethyl Acrylate Copolymer	69418-26-4	0.03450%
Alkanes, C12-26-Branched and Linear	90622-53-0	0.03450%
Ethoxylated Alcohols (C12-16)	68551-12-2	0.00431%
Glutaraldehyde	111-30-8	0.00208%
AA/Maleic Anhydride Co-polymer	9003-04-7	0.00065%
AA/ATBS Co-polymer	9003-05-8	0.00065%
Citric acid	77-92-9	0.00043%
Methyl alcohol	67-56-1	0.00043%
Quaternary Ammonium Compounds	68424-85-1	0.00031%
Didecyl dimethyl ammonium chloride	7173-51-5	0.00031%
Ethanol	64-17-5	0.00016%
Ethylene glycol	107-21-1	0.00012%
N,N-Dimethylformamide	68-12-2	0.00006%
Cinnamaldehyde	104-55-2	0.00003%
2-Butoxyethanol	111-76-2	0.00003%
Poly(oxy-1,2-ethanediyl), .alpha.-(4-nonylphenyl)-.omega.-hydroxy-, branched	127087-87-0	0.00003%
Tar Bases, quinoline derivs, benzyl chloride-quat	72480-70-7	0.00003%

Additive	Specific Gravity	Additive Quantity	Unit
Water	1.00	9,663,696	gal
StimSTREAM FR 9800	1.08	9,181	gal
Clearal 268	1.03	1,160	gal
StimSTREAM SC 405	1.03	1,450	gal
ACI-150	0.88	80	gal
Citric Acid 50%	1.23	80	gal
HCL Acid (28%)	1.14	12,455	gal
Sand	2.65	15,076,000	lbs