

Inhibited Triethylene Glycol Heat Transfer Fluid

Process Applications

- Specifically designed for high temperature applications
- Ideal for process heating where temperatures exceed the limits of other glycols
- Can be used in solar, geothermal, thermal storage & line heating

■ Dynalene TEG Overview

Dynalene triethylene glycol products are comprised of inhibited and uninhibited triethylene glycol solutions. Dynalene triethylene glycols are blended with specially formulated additive packages depending on your system specifications.

Our line of triethylene glycol heat transfer fluids provides users with stable, safe, and efficient products for applications where freeze protection is needed. We only use high quality virgin glycol in our glycol products, never recycled. All raw materials are tested and approved by our quality control department prior to use.

Properly used and maintained, Dynalene triethylene glycols provide excellent thermophysical properties while protecting your system from corrosion and degradation. Each individual triethylene glycol-based product has its own advantages, and custom blends can be readily made to meet your system's requirements.

■ Corrosion Protection

Dynalene TEG utilizes a unique corrosion inhibitor package that offers superior corrosion protection for most metals including carbon steel, brass, copper, stainless steel, cast iron, and many other alloys by creating a passive layer on the surface that contacts the Dynalene TEG and prevents corrosion from forming. It also stabilizes the pH of the fluid keeping it in the range that is suitable for the metals in your system.

■ Price, Quantity, & Availability

Dynalene TEG is offered in 1, 2.5, 5, 30, 55, and 265 gallon containers as well as 5,000 gallon tankers. Pricing depends on quantity, however, Dynalene, Inc. will work with you to try and fit your budget.

Recommended Temperature Range:

-35°C (-32°F) to 204°C (400°F)

■ Properties of Dynalene TEG

A list of the thermo-physical properties of Dynalene TEG is given on page 2. For health and safety information or to request a Material Safety Data Sheet, contact our Dynalene sales representatives.

Composition:	Triethylene glycol, inhibitors
Appearance:	Clear
Odor:	Little or none
Melting Temperature (60 vol%):	-35°C (-31°F)
Boiling Point (60 vol%):	112°C (234°F)
pH:	8.5 to 9.5
Reserve Alkalinity:	>7.0 mL
Refractive Index (60 vol%):	1.4111
Flash Point (<85%):	None

■ Dynalene's Fluid Care Program

Coupling our Dynalene fluids with a fluid care program can extend the life of your systems significantly. It offers yearly testing of the heat transfer fluid in your system and tracks the changes in the fluid year to year so adjustments can be made to keep your systems working at its best.

■ Benefits of Choosing Dynalene TEG

- Pre-mixed solutions
- Custom blends
- Ability to be re-inhibited
- Cost-effective
- Total fluid care
- Proven Performance
- Available worldwide

Properties of Dynalene TEG Solutions

Viscosity

1 cP = 0.001 Pa·s

Dynalene Triethylene Glycol, Viscosity, cP									
Temp, °C	Volume								
	20%	25%	30%	35%	40%	45%	50%	55%	60%
0	3.97	5.34	6.70	8.85	11.0	14.1	17.2	23.4	29.6
5	3.31	4.30	5.29	6.83	8.36	10.6	12.8	17.7	22.7
10	2.84	3.69	4.54	5.78	7.03	8.85	10.7	14.1	17.6
15	2.45	3.18	3.91	4.92	5.94	7.46	8.98	11.0	13.1
20	2.13	2.76	3.38	4.22	5.05	6.32	7.60	9.40	11.2
25	1.85	2.40	2.94	3.63	4.32	5.39	6.46	8.06	9.67
30	1.62	2.10	2.57	3.14	3.71	4.62	5.52	6.94	8.36
40	1.26	1.63	1.99	2.38	2.78	3.44	4.10	5.21	6.33
50	0.99	1.28	1.57	1.84	2.12	2.61	3.10	4.00	4.91
60	0.79	1.02	1.25	1.45	1.64	2.01	2.38	3.10	3.82
70	0.64	0.83	1.01	1.15	1.29	1.58	1.86	2.45	3.04
80	0.53	0.68	0.83	0.93	1.03	1.25	1.47	1.96	2.44
90	0.44	0.56	0.68	0.76	0.83	1.01	1.18	1.59	1.99
100	0.37	0.47	0.57	0.63	0.68	0.82	0.96	1.30	1.64
120	0.26	0.34	0.41	0.44	0.47	0.56	0.65	0.90	1.14
140	0.20	0.25	0.30	0.32	0.33	0.40	0.46	0.64	0.83
160	0.15	0.19	0.23	0.24	0.25	0.29	0.34	0.48	0.62
180	0.12	0.15	0.18	0.18	0.19	0.22	0.25	0.36	0.47
200	0.10	0.12	0.13	0.14	0.15	0.17	0.19	0.28	0.37

Density

1 kg/m³ = 0.0624 lb/ft³

Dynalene Triethylene Glycol, Density, kg/m ³									
Temp, °C	Volume								
	20%	25%	30%	35%	40%	45%	50%	55%	60%
0	1039	1049	1060	1069	1079	1087	1095	1104	1113
5	1038	1048	1057	1067	1077	1084	1092	1101	1110
10	1036	1046	1055	1065	1074	1082	1089	1098	1108
15	1034	1043	1053	1062	1071	1079	1086	1096	1105
20	1032	1041	1050	1059	1069	1076	1083	1093	1102
25	1030	1039	1048	1057	1066	1073	1080	1090	1099
30	1028	1037	1045	1054	1063	1070	1076	1086	1096
40	1024	1031	1039	1048	1057	1063	1069	1080	1090
50	1018	1026	1033	1041	1050	1056	1062	1073	1083
60	1013	1019	1026	1035	1043	1049	1054	1065	1076
70	1007	1013	1019	1027	1036	1041	1046	1057	1068
80	1000	1006	1011	1020	1028	1033	1038	1049	1060
90	993	998	1004	1011	1019	1024	1029	1040	1051
100	985	990	995	1003	1011	1016	1020	1031	1042
120	967	972	977	985	992	997	1001	1012	1022
140	948	953	957	965	972	976	981	991	1001
160	927	931	936	943	950	954	959	968	977
180	903	908	913	920	926	931	936	944	952
200	877	883	888	894	901	906	911	918	925

1 J/g°C = 0.239 Btu/lb·°F

Specific Heat

Dynalene Triethylene Glycol, Specific Heat, J/g°C									
Temp, °C	Volume								
	20%	25%	30%	35%	40%	45%	50%	55%	60%
0	3.750	3.669	3.588	3.507	3.426	3.344	3.263	3.184	3.107
5	3.776	3.696	3.617	3.537	3.457	3.377	3.297	3.219	3.143
10	3.802	3.724	3.645	3.566	3.487	3.409	3.330	3.253	3.178
15	3.828	3.750	3.672	3.595	3.517	3.440	3.362	3.286	3.212
20	3.852	3.776	3.699	3.623	3.546	3.470	3.393	3.319	3.245
25	3.877	3.801	3.726	3.650	3.575	3.500	3.424	3.350	3.278
30	3.900	3.826	3.752	3.677	3.603	3.529	3.454	3.382	3.310
40	3.946	3.873	3.801	3.729	3.657	3.585	3.512	3.442	3.372
50	3.989	3.919	3.848	3.778	3.708	3.638	3.568	3.499	3.432
60	4.030	3.961	3.893	3.825	3.757	3.689	3.620	3.554	3.488
70	4.068	4.002	3.936	3.869	3.803	3.737	3.670	3.605	3.541
80	4.105	4.040	3.976	3.911	3.847	3.782	3.718	3.654	3.592
90	4.138	4.076	4.013	3.950	3.888	3.825	3.762	3.700	3.640
100	4.170	4.109	4.048	3.987	3.926	3.865	3.804	3.744	3.685
120	4.227	4.169	4.111	4.053	3.995	3.937	3.879	3.822	3.766
140	4.274	4.219	4.164	4.109	4.053	3.998	3.943	3.889	3.835
160	4.312	4.259	4.207	4.154	4.102	4.049	3.996	3.945	3.893
180	4.341	4.290	4.240	4.190	4.139	4.089	4.039	3.989	3.940
200	4.360	4.312	4.264	4.215	4.167	4.119	4.070	4.022	3.975

1 W/mK = 0.578 Btu/hr·ft·°F

Thermal Conductivity

Dynalene Triethylene Glycol, Thermal Conductivity, W/mK									
Temp, °C	Volume								
	20%	25%	30%	35%	40%	45%	50%	55%	60%
0	0.479	0.463	0.447	0.432	0.416	0.398	0.380	0.366	0.351
5	0.483	0.466	0.449	0.433	0.417	0.398	0.380	0.365	0.350
10	0.486	0.469	0.451	0.434	0.417	0.398	0.379	0.364	0.348
15	0.489	0.471	0.453	0.436	0.418	0.398	0.379	0.363	0.346
20	0.492	0.474	0.456	0.437	0.418	0.398	0.379	0.362	0.345
25	0.495	0.476	0.458	0.438	0.418	0.399	0.379	0.361	0.343
30	0.499	0.479	0.460	0.439	0.419	0.399	0.379	0.360	0.342
40	0.505	0.484	0.464	0.442	0.420	0.399	0.378	0.358	0.339
50	0.511	0.490	0.468	0.444	0.421	0.399	0.378	0.357	0.335
60	0.518	0.495	0.472	0.447	0.422	0.400	0.378	0.355	0.332
70	0.524	0.500	0.476	0.449	0.423	0.400	0.377	0.353	0.329
80	0.531	0.505	0.480	0.452	0.424	0.400	0.377	0.351	0.326
90	0.537	0.511	0.484	0.454	0.425	0.400	0.376	0.349	0.323
100	0.543	0.516	0.488	0.457	0.425	0.401	0.376	0.348	0.319
120	0.556	0.526	0.497	0.462	0.427	0.401	0.375	0.344	0.313
140	0.569	0.537	0.505	0.467	0.429	0.402	0.375	0.341	0.307
160	0.582	0.547	0.513	0.472	0.431	0.402	0.374	0.337	0.300
180	0.595	0.558	0.521	0.477	0.433	0.403	0.373	0.333	0.294
200	0.607	0.569	0.530	0.482	0.435	0.404	0.372	0.330	0.287

1 psi = 6,895 Pa = 0.069 bar = 0.0681 atm = 51.7 mmHg = 21.7 inH₂O

Vapor Pressure

Dynalene Triethylene Glycol, Vapor Pressure, psia						
Temp, °C	Volume					
	50%	60%	70%	80%	90%	100%
0	0.08	0.07	0.06	0.05	0.03	0.0
5	0.11	0.10	0.09	0.07	0.05	0.0
10	0.15	0.14	0.13	0.10	0.06	0.0
15	0.21	0.20	0.18	0.15	0.09	0.0
20	0.29	0.27	0.25	0.20	0.12	0.0
25	0.40	0.37	0.34	0.27	0.17	0.0
30	0.54	0.49	0.45	0.37	0.23	0.0
40	0.94	0.86	0.79	0.65	0.41	0.0
50	1.57	1.45	1.32	1.09	0.69	0.0
60	2.54	2.35	2.15	1.77	1.12	0.0
70	3.98	3.68	3.37	2.78	1.77	0.0
80	6.06	5.60	5.13	4.24	2.72	0.0
90	8.97	8.30	7.62	6.31	4.07	0.0
100	13.0	12.0	11.0	9.16	5.93	0.01
120	25.5	23.6	21.7	18.1	11.8	0.02
140	46.5	43.1	39.7	33.2	21.9	0.07
160	79.6	74.0	68.3	57.3	38.0	0.19
180	130	120.4	111.3	93.8	62.5	0.47
200	201	187.3	173.3	146.5	98.2	1.05