Dynalene Propylene Glycol Series

DYNALENE
Tomorrow's Solutions **Flow** Through Us

Inhibited Propylene Glycol Heat Transfer Fluids

Process Applications

- HVAC/R
- Food & beverage
- Solar Applications
- Thermal Storage
- Process cooling & heating
- Ice & snow melting systems
- Refrigeration systems
- Line heaters
- Plastic extrusion
- Geothermal energy
- Winterization
- Cooling towers

Dynalene PG Series Overview

Dynalene propylene glycol products are comprised of inhibited and uninhibited non-toxic propylene glycol solutions. Dynalene also offers raw or inhibited USP food grade propylene glycol depending on your application. Our line of propylene 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 propylene glycols provide excellent thermophysical properties while protecting your system from corrosion and degradation. Each individual propylene glycol-based product has its own advantages, and custom blends can be readily made to meet your system's requirements.

Product	Description	Temperature Range
Dynalene PG	Inhibited propylene glycol	-50°F to 250°F / -46°C to 121°C
Dynalene PG-FG	Food grade inhibited propylene glycol	-50°F to 250°F / -46°C to 121°C
Dynalene PG-XT	High-temperature inhibited propylene glycol	-50°F to 350°F / -46°C to 177°C
Dynalene PG-V1	Inhibited propylene glycol for aluminum systems	-50°F to 194°F / -46°C to 90°C
Dynalene Raw PG	Uninhibited technical & food grade propylene glycol	Contact Dynalene

Corrosion Protection

Dynalene's inhibited propylene glycol products utilize a unique corrosion inhibitor package made from non-toxic raw materials. These inhibitors offer 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 propylene glycol 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.

Corrosion test results, based on corrosion test ASTM D1384, in mils per year (mpy)

Metal	Deionized Water	Raw PG (50 vol%)	Dynalene PG (50 vol%)
Solder	3.10	2.26	0.08
Aluminum	13.2	13.3	+0.39
Copper	0.08	0.15	0.15
Brass	0.22	0.20	0.11
Greycast Iron	21.1	28.1	+0.01
Carbon Steel	9.69	17.5	0.01

Price, Quantity, & Availability

Dynalene propylene glycol products are 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.

Dynalene's Fluid Care Program

Coupling our Dynalene fluids with a fluid care program can extend the life of your systems significantly. We offer 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 system working at its best.

Dynalene only uses deionized water when blending our glycol-water mixtures

Water Ion	Dynalene Spec
Chloride	< 25 ppm
Sulfate	< 25 ppm
Other	< 50 ppm

Dynalene, Inc. ▪ 5250 W Coplay Rd ▪ Whitehall, PA ▪ 18052

Dynalene, Inc. is an ISO 9001 certified company

Tel: (610) 262-9686
Toll Free: (877) 244-5525
Fax: (610) 262-7437
E-mail: info@dynalene.com
Web: dynalene.com

General Properties

	Dynalene PG / PG-FG	Dynalene PG-XT	Dynalene PG-V1	Dynalene Raw PG
pH	8.0 – 9.5	8.5 – 10.5	9.0 – 11.5	6.0 – 8.0
Reserve Alkalinity	>10.5 mL	>16.0 mL	>10.5 mL	0 mL
Operating Range	-50 to 250°F	-50 to 350°F	-50 to 194°F	Contact Dynalene
Flash Point (Conc < 85%)	None	None	None	None
Color	Clear	Clear	Clear	Clear
Odor	Little or none	Little or none	Little or none	Little or none

Freeze and burst points of Dynalene propylene glycol solutions:

Vol. %	Wt .%	Freeze Point		Burst Point		Boiling Point	Refractive Index	Specific Gravity
PG	PG	ºF	ºC	ºF	ºC	ºF	22ºC (72ºF)	22ºC (72ºF)
0	0.0	32	0	32	0.0	212	1.3328	1.000
5	5.2	29	-1.7	27	-2.7	212	1.3385	1.005
10	10.5	26	-3.3	22	-5.6	212	1.3439	1.010
15	15.6	23	-5.0	19	-7.5	212	1.3501	1.015
20	20.8	19	-7.2	11	-11.8	213	1.3665	1.020
25	25.9	14	-10.1	-1	-18.4	214	1.3626	1.025
26	27.0	13	-10.6	-4	-20.1	214	1.3629	1.026
27	28.0	12	-11.1	-7	-21.8	214	1.3651	1.027
28	29.0	10	-12.2	-10	-23.6	215	1.3663	1.028
29	30.1	9	-12.8	-14	-25.5	216	1.3676	1.029
30	31.1	8	-13.3	-18	-27.5	216	1.3689	1.030
31	32.1	7	-13.9	-21	-29.6	216	1.3699	1.031
32	33.1	5	-15.0	-24	-31.1	216	1.3711	1.032
33	34.1	4	-15.6	-30	-34.4	216	1.3722	1.032
34	35.1	2	-16.7	-38	-38.9	217	1.3734	1.033
35	36.1	1	-17.2	-46	-43.3	217	1.3745	1.034
36	37.2	-1	-18.3	-53	-47.2	217	1.3759	1.035
37	38.2	-3	-19.4	-60	-51.1	218	1.3769	1.036
38	39.2	-4	-20.0	-60	-51.1	218	1.3781	1.037
39	40.2	-6	-21.1	-60	-51.1	219	1.3792	1.038
40	41.2	-8	-22.2	-60	-51.1	219	1.3804	1.039
41	42.2	-10	-23.3	-60	-51.1	219	1.3815	1.040
42	43.2	-12	-24.4	-60	-51.1	219	1.3827	1.041
43	44.2	-14	-25.5	-60	-51.1	219	1.3838	1.042
44	45.2	-16	-26.7	-60	-51.1	220	1.3849	1.043
45	46.2	-18	-27.8	-60	-51.1	220	1.3860	1.044
46	47.2	-21	-29.4	-60	-51.1	220	1.3872	1.045
47	48.2	-23	-30.6	-60	-51.1	221	1.3883	1.046
48	49.2	-26	-32.2	-60	-51.1	221	1.3894	1.047
49	50.2	-28	-33.3	-60	-51.1	222	1.3905	1.048
50	51.2	-31	-35.0	-60	-51.1	222	1.3916	1.049
55	56.2	-46	-43.3	-60	-51.1	223	1.3968	1.052
60	61.2	<-60	-51.1	-60	-51.1	225	1.4020	1.055
65	66.1	<-60	-51.1	-60	-51.1	227	1.4067	1.057
70	71.0	<-60	-51.1	-60	-51.1	230	1.4113	1.057
80	80.8	<-60	-51.1	-60	-51.1	246	1.4201	1.059
90	90.4	<-60	-51.1			270	1.4248	1.056
95	95.2	<-60	-51.1			310	1.4315	1.052

1 cP= 0.001 Pa·s

Viscosity

Dynalene Propylene Glycol Series, Viscosity, cP									
	Volume								
Temp, °F	20%	25%	30%	35%	40%	45%	50%	55%	60%
-30									498
-20									299
-10							96.0	140	183
0					40.9	51.1	61.3	88.2	115
10			13.4	20.2	27.0	33.8	40.6	57.4	74.2
20	5.36	7.63	9.89	14.2	18.5	23.2	27.8	38.6	49.3
30	4.23	5.85	7.46	10.3	13.1	16.4	19.7	26.7	33.7
40	3.41	4.58	5.75	7.68	9.60	12.0	14.3	19.0	23.7
50	2.79	3.66	4.52	5.87	7.21	8.96	10.7	13.9	17.1
60	2.32	2.97	3.62	4.59	5.56	6.85	8.13	10.4	12.6
70	1.95	2.45	2.94	3.66	4.38	5.36	6.34	7.93	9.51
80	1.66	2.05	2.43	2.98	3.52	4.28	5.04	6.19	7.34
90	1.43	1.74	2.04	2.46	2.88	3.48	4.08	4.93	5.77
100	1.25	1.49	1.73	2.07	2.4	2.88	3.35	3.99	4.62
120	0.97	1.14	1.30	1.52	1.73	2.05	2.36	2.74	3.11
140	0.78	0.90	1.01	1.16	1.31	1.53	1.75	1.99	2.22
160	0.64	0.73	0.82	0.93	1.04	1.20	1.35	1.51	1.66
180	0.54	0.61	0.68	0.77	0.85	0.97	1.08	1.19	1.29
200	0.46	0.52	0.58	0.65	0.71	0.80	0.88	0.96	1.04
220	0.40	0.45	0.50	0.56	0.61	0.68	0.74	0.80	0.86
240	0.36	0.40	0.44	0.49	0.53	0.59	0.64	0.69	0.73

1 Btu/hr·ft·°F = 1.73 W/mK

Thermal Conductivity

Dynalene Propylene Glycol Series, Thermal Conductivity, Btu/hr·ft·°F									
	Volume								
Temp, °F	20%	25%	30%	35%	40%	45%	50%	55%	60%
-30									0.171
-20							0.188	0.181	0.174
-10							0.191	0.184	0.176
0					0.211	0.203	0.194	0.186	0.178
10			0.235	0.225	0.215	0.206	0.196	0.188	0.179
20	0.262	0.251	0.239	0.229	0.218	0.209	0.199	0.190	0.181
30	0.267	0.255	0.243	0.233	0.222	0.212	0.201	0.192	0.183
40	0.272	0.260	0.247	0.236	0.225	0.215	0.204	0.194	0.184
50	0.277	0.264	0.251	0.239	0.227	0.217	0.206	0.196	0.186
60	0.281	0.268	0.254	0.242	0.230	0.219	0.208	0.198	0.187
70	0.285	0.272	0.258	0.246	0.233	0.222	0.210	0.199	0.188
80	0.289	0.275	0.261	0.248	0.235	0.223	0.211	0.200	0.189
90	0.292	0.278	0.263	0.250	0.237	0.225	0.213	0.202	0.190
100	0.295	0.281	0.266	0.253	0.239	0.227	0.214	0.203	0.191
120	0.298	0.283	0.268	0.255	0.241	0.228	0.215	0.204	0.192
140	0.306	0.290	0.274	0.260	0.245	0.232	0.218	0.206	0.194
160	0.309	0.293	0.277	0.262	0.247	0.234	0.220	0.207	0.194
180	0.312	0.296	0.279	0.264	0.249	0.235	0.221	0.208	0.195
200	0.314	0.297	0.280	0.265	0.249	0.235	0.221	0.208	0.194
220	0.314	0.297	0.280	0.265	0.249	0.235	0.220	0.207	0.194

Specific Heat

1 Btu/lb_m·°F = 4,186 J/kg°C

Dynalene Propylene Glycol Series, Specific Heat, Btu/lb·˚F									
	Volume								
Temp, ˚F	20%	25%	30%	35%	40%	45%	50%	55%	60%
-30									0.740
-20							0.799	0.773	0.746
-10							0.804	0.778	0.752
0					0.855	0.832	0.809	0.784	0.758
10			0.898	0.879	0.859	0.837	0.814	0.789	0.764
20	0.936	0.919	0.902	0.883	0.864	0.842	0.820	0.795	0.770
30	0.938	0.922	0.906	0.887	0.868	0.847	0.825	0.801	0.776
40	0.941	0.925	0.909	0.891	0.872	0.851	0.830	0.806	0.782
50	0.944	0.929	0.913	0.895	0.877	0.856	0.835	0.811	0.787
60	0.947	0.932	0.917	0.899	0.881	0.861	0.840	0.817	0.793
70	0.950	0.935	0.920	0.903	0.886	0.866	0.845	0.822	0.799
80	0.953	0.939	0.924	0.907	0.890	0.870	0.850	0.828	0.805
90	0.956	0.942	0.928	0.911	0.894	0.875	0.855	0.833	0.811
100	0.959	0.945	0.931	0.915	0.899	0.880	0.861	0.839	0.817
120	0.965	0.952	0.939	0.924	0.908	0.890	0.871	0.850	0.828
140	0.970	0.958	0.946	0.931	0.916	0.899	0.881	0.861	0.840
160	0.976	0.965	0.953	0.939	0.925	0.908	0.891	0.872	0.852
180	0.982	0.972	0.961	0.948	0.934	0.918	0.902	0.883	0.864
200	0.988	0.978	0.968	0.956	0.943	0.928	0.912	0.894	0.875
220	0.994	0.985	0.975	0.963	0.951	0.937	0.922	0.905	0.887
240	0.999	0.991	0.982	0.971	0.960	0.946	0.932	0.916	0.899

Density

1 lb_m/ft^3= 16 kg/m^3

Dynalene Propylene Glycol Series, Density, lb/ft^3									
	Volume								
Temp, ˚F	20%	25%	30%	35%	40%	45%	50%	55%	60%
-30									67.05
-20							66.46	66.70	66.93
-10							66.35	66.58	66.81
0					65.71	65.97	66.23	66.46	66.68
10			65.00	65.30	65.60	65.86	66.11	66.33	66.54
20	64.23	64.57	64.90	65.19	65.48	65.73	65.97	66.18	66.38
30	64.14	64.47	64.79	65.07	65.35	65.59	65.82	66.02	66.22
40	64.03	64.35	64.67	64.94	65.21	65.44	65.67	65.86	66.05
50	63.92	64.23	64.53	64.80	65.06	65.28	65.50	65.69	65.87
60	63.79	64.09	64.39	64.65	64.90	65.12	65.33	65.51	65.68
70	63.66	63.95	64.24	64.49	64.73	64.94	65.14	65.31	65.47
80	63.52	63.80	64.08	64.32	64.55	64.75	64.95	65.11	65.26
90	63.37	63.64	63.91	64.14	64.36	64.55	64.74	64.89	65.04
100	63.20	63.47	63.73	63.95	64.16	64.35	64.53	64.67	64.81
120	62.85	63.09	63.33	63.54	63.74	63.90	64.06	64.19	64.32
140	62.46	62.68	62.90	63.09	63.27	63.42	63.57	63.68	63.79
160	62.03	62.23	62.43	62.60	62.76	62.90	63.03	63.13	63.22
180	61.56	61.74	61.92	62.07	62.22	62.34	62.45	62.53	62.61
200	61.05	61.21	61.37	61.50	61.63	61.73	61.83	61.90	61.97
220	60.50	60.64	60.78	60.89	61.00	61.09	61.17	61.23	61.28
240	59.91	60.03	60.15	60.25	60.34	60.41	60.47	60.51	60.55

1 psi = 6,895 Pa = 0.069 bar = 0.0681 atm = 51.7 mmHg = 21.7 inH_2O

Dynalene Propylene Glycol Series, Vapor Pressure, psia									
	Volume								
Temp, °F	20%	25%	30%	35%	40%	45%	50%	55%	60%
100	0.9	0.9	0.9	0.9	0.9				
110	1.9	1.6	1.2	1.2	1.2	1.2	1.1	1.1	1.0
120	1.7	1.7	1.6	1.5	1.5	1.5	1.5	1.5	1.4
130	2.2	2.2	2.1	2.1	2.0	2.0	1.9	1.9	1.8
140	2.8	2.8	2.7	2.7	2.6	2.6	2.5	2.4	2.3
150	3.6	3.6	3.5	3.5	3.4	3.4	3.2	3.0	3.0
160	4.6	4.5	4.4	4.4	4.3	4.2	4.1	4.0	3.8
170	5.8	5.8	5.6	5.4	5.4	5.3	5.2	5.0	4.8
180	7.2	7.1	7.0	6.9	6.7	6.6	6.5	6.2	5.9
190	9.0	8.9	8.7	8.5	8.3	8.2	8.1	7.8	7.4
200	11.0	10.9	10.7	10.5	10.2	10.1	9.9	9.5	9.1
210	13.5	13.5	13.1	12.8	12.5	12.3	12.1	11.6	11.1
220	16.4	16.4	15.9	15.6	15.2	15.0	14.8	14.2	13.6
230	19.8	19.5	19.2	18.8	18.4	17.8	17.8	17.1	16.4
240	23.8	23.4	23.0	22.5	22.0	21.7	21.4	20.6	19.7
250	28.4	27.9	27.4	26.9	26.3	26.0	25.6	24.6	23.5

Contact Information

Corporate Headquarters
Dynalene, Inc.
5250 West Coplay Road
Whitehall, Pennsylvania 18052
Phone: 610-262-9686 / 1-877-244-5525
Fax: 610-262-7437
Email: info@dynalene.com
Website: www.dynalene.com

Midwest Location
648 Bennett Road
Elk Grove Village, IL 60007
Phone: 1-855-216-7639

West Location
1701 S 5350 W
Salt Lake City, UT 84104
Phone: 1-877-244-5525