

Ultra-Low Temperature Heat Transfer Fluid

Process Applications

- Ultra-low temperature applications
- Pharmaceutical
- Process cooling & heating
- Cryogenic
- Refrigeration systems
- Freeze-drying

■ Dynalene MV Overview

Dynalene MV heat transfer fluid extends low-end operating ranges far beyond the boundaries of most competitive brands. Even at temperatures below -112°C (-170°F), the fluid remains pumpable. Dynalene MV allows for cost-effective retrofits with minimal equipment modifications.

Dynalene MV is chosen for its thermal stability, environmental performance, biodegradability, and cost effectiveness in many critical applications.

■ Materials Compatibility

Polymer and Gasket Compatibility:

- Acetal
- Aramid Fiber
- Chemraz (FFKM)
- Epoxy
- Fluorocarbon (FILM)
- Fluoroelastomer
- Glass Fiber
- Gylon
- Kalrez
- Kel-F (CTFE)
- Peek
- PTFE
- Teflon (All)
- PTFE-Silicone
- PTFE-Viton
- PTFE-Fiberglass
- Viton
- Resin-Graphite

Metal Compatibility:

- Aluminum
- Brass
- Bronze (All)
- Carbon Steel
- Copper
- Copper Nickel
- Monel
- Nickel
- Stainless Steel (All)
- Stainless Steel Clad
- Tantalum
- Titanium

■ 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.

Recommended Temperature Range for Closed Systems:

-112°C (-170°F) to 163°C (325°F)

(Dynalene MV is recommended for closed systems only)

■ Properties of Dynalene MV

A comprehensive list of all thermo-physical properties of Dynalene MV can be found on page 2. For health and safety information or to request a Material Safety Data Sheet, contact our Dynalene sales representatives.

Composition:	Hydrocarbon blend
Appearance:	Clear, light yellow
Odor:	Mild orange odor
Freezing Point:	<-129°C (<-200°F)
Boiling Point:	176°C (348°F)
Flash Point (Closed):	53°C (127°F)
Flash Point (Open):	61°C (142°F)
Fire Point:	64°C (147°F)
Autoignition Temp:	388°C (730°F)
Critical Temp:	387°C (729°F)
Critical Pressure:	34 bar (33.6 atm)
Molecular Wt	135
Dielectric Constant	2.3

■ Benefits of Choosing Dynalene MV

- Lower viscosity means less energy to pump
- Available throughout North America
- Cost-effective
- Total fluid care
- Proven performance

US Units

Temperature °F	Viscosity cP	Thermal Cond. BTU/hr-ft·°F	Specific Heat BTU/lb·°F	Density lb/ft ³
-170	218	0.095	0.318	59.2
-160	97.1	0.094	0.322	58.9
-140	30.3	0.093	0.332	58.4
-120	13.7	0.091	0.341	57.8
-100	7.64	0.090	0.350	57.3
-80	4.92	0.088	0.360	56.8
-60	3.47	0.087	0.369	56.2
-40	2.62	0.085	0.379	55.7
-20	2.08	0.084	0.388	55.2
0	1.72	0.082	0.397	54.6
20	1.46	0.081	0.407	54.1
40	1.26	0.079	0.416	53.5
60	1.12	0.078	0.425	53.0
80	1.00	0.076	0.435	52.5
100	0.91	0.074	0.444	51.9
120	0.84	0.073	0.453	51.4
140	0.77	0.071	0.463	50.9
160	0.72	0.070	0.472	50.3
180	0.68	0.068	0.482	49.8
200	0.64	0.067	0.491	49.3
220	0.61	0.065	0.500	48.7
240	0.58	0.064	0.510	48.2
260	0.56	0.062	0.519	47.6
280	0.53	0.061	0.528	47.1
300	0.51	0.059	0.538	46.6
320	0.5	0.058	0.547	46.0
325	0.49	0.057	0.549	45.9

SI Units

Temperature °C	Viscosity mPa·s	Thermal Cond. W/m·K	Specific Heat kJ/kg·K	Density kg/m ³
-112	215.3	0.165	1.330	948
-100	46.4	0.162	1.373	938
-90	19.9	0.159	1.408	931
-80	10.7	0.157	1.443	923
-70	6.66	0.155	1.479	915
-60	4.58	0.152	1.514	907
-50	3.38	0.150	1.549	900
-40	2.63	0.148	1.584	892
-30	2.13	0.145	1.620	884
-20	1.78	0.143	1.655	876
-10	1.53	0.140	1.690	869
0	1.34	0.138	1.726	861
10	1.19	0.136	1.761	853
20	1.07	0.133	1.796	845
30	0.97	0.131	1.831	838
40	0.90	0.128	1.867	830
50	0.83	0.126	1.902	822
60	0.78	0.124	1.937	815
70	0.73	0.121	1.973	807
80	0.69	0.119	2.008	799
90	0.65	0.117	2.043	791
100	0.62	0.114	2.078	784
110	0.59	0.112	2.114	776
120	0.57	0.109	2.149	768
130	0.55	0.107	2.184	760
140	0.53	0.105	2.219	753
150	0.51	0.102	2.255	745
163	0.49	0.099	2.301	735

