Technical Data Sheet

DOWCAL™ 200 Heat Transfer Fluid

Inhibited Propylene Glycol-based Heat Transfer Fluid

Recommended Usage

DOWCAL™ 200 is a propylene glycol-based heat transfer fluid for use in a wide range of industrial, construction and infrastructure applications. Its low acute toxicity makes DOWCAL™ 200 especially suitable for applications where toxicity is a concern.

Recommended use temperature range:
-50°C to 175°C

Key Benefits of DOWCAL™ 200 Heat Transfer Fluid

- Low acute oral toxicity
- Improved corrosion protection, in particular for aluminum alloys
- Compatible with commonly used elastomers
- Hard water stability to enable use with local tap water
- Long fluid lifetime, lowering maintenance cost
- Recommended use at minimum 30% concentration for corrosion protection

Typical Properties of DOWCAL™ 200 Heat Transfer Fluid[1]

Composition (% by weight)			
	Propylene Glycol	92%	
	Performance additive and water	8%	
Property	**Unit**	**Value**	**Test Method**
Colour		Colourless	
Density at 20°C	g/cm^3	1.050	ASTM D4052
pH (50% vol. solution in demineralized water)		7.2 – 7.6	ASTM E70
Reserve alkalinity, as concentrate	ml	10.0 Min	ASTM D1121
Freezing point (50% vol. solution in demineralized water)	°C	-33	ASTM E70

1. Typical properties not to be construed as specification, complete sales specification is available on request.

Typical Freezing, Boiling Points and other properties of DOWCAL™ 200 Heat Transfer Fluid [1]

DOWCAL™ 200 % vol	DOWCAL™ 200 %wt	Freezing point °C	Refractive Index @ 20°C	Boiling point °C @ 1 bara	Density g/cm³ @ 20°C	Dyn. viscosity mPa.s @ 20°C	Kin. viscosity mm²/s @ 20°C
5.0	5.3	-1.6	1.3391	100	1.006	1.36	1.95
10.0	10.5	-3.3	1.3452	100	1.011	1.62	1.66
15.0	15.8	-5.3	1.3513	101	1.015	1.93	1.81
20.0	20.9	-7.5	1.3573	101	1.020	2.30	2.11
21.0	22.0	-8.0	1.3585	101	1.021	2.39	2.18
22.0	23.0	-8.5	1.3597	101	1.022	2.48	2.26
23.0	24.0	-9.1	1.3609	101	1.022	2.57	2.34
24.0	25.1	-9.6	1.3621	102	1.023	2.66	2.42
25.0	26.1	-10.2	1.3633	102	1.024	2.76	2.51
26.0	27.1	-10.8	1.3645	102	1.025	2.87	2.61
27.0	28.2	-11.4	1.3657	102	1.026	2.97	2.71
28.0	29.2	-12.1	1.3669	102	1.027	3.09	2.81
29.0	30.2	-12.7	1.3681	102	1.028	3.20	2.92
30.0	31.2	-13.4	1.3693	102	1.029	3.33	3.04
31.0	32.3	-14.1	1.3704	102	1.030	3.45	3.16
32.0	33.3	-14.8	1.3716	102	1.031	3.58	3.29
33.0	34.3	-15.6	1.3728	102	1.032	3.72	3.42
34.0	35.3	-16.4	1.3739	102	1.033	3.87	3.56
35.0	36.3	-17.2	1.3751	102	1.034	4.02	3.70
36.0	37.4	-18.0	1.3762	103	1.035	4.17	3.85
37.0	38.4	-18.9	1.3774	103	1.036	4.34	4.01
38.0	39.4	-19.8	1.3785	103	1.037	4.51	4.17
39.0	40.4	-20.7	1.3797	103	1.038	4.68	4.35
40.0	41.4	-21.7	1.3808	103	1.039	4.87	4.53
41.0	42.4	-22.7	1.3820	103	1.039	5.06	4.71
42.0	43.4	-23.7	1.3831	103	1.040	5.26	4.91
43.0	44.4	-24.8	1.3842	103	1.041	5.47	5.12
44.0	45.4	-25.8	1.3853	103	1.042	5.69	5.33
45.0	46.4	-27.0	1.3864	103	1.043	5.92	5.55
46.0	47.5	-28.1	1.3875	104	1.044	6.16	5.79
47.0	48.5	-29.3	1.3886	104	1.045	6.40	6.03
48.0	49.5	-30.5	1.3897	104	1.046	6.66	6.29
49.0	50.5	-31.8	1.3908	104	1.047	6.93	6.55
50.0	51.5	-33.1	1.3919	104	1.048	7.22	6.83
51.0	52.5	-34.5	1.3930	105	1.048	7.51	7.12
52.0	53.5	-35.9	1.3941	105	1.049	7.82	7.42
53.0	54.4	-37.3	1.3951	105	1.050	8.14	7.74
54.0	55.4	-38.7	1.3962	105	1.051	8.48	8.07
55.0	56.4	-40.3	1.3973	105	1.052	8.83	8.41
60.0	61.4	-48.5	1.4024	107	1.056	10.8	10.4
65.0	66.3	<-51	1.4074	108	1.059	13.3	12.8
70.0	71.2	<-51	1.4122	109	1.062	16.5	15.8
75.0	76.1	<-51	1.4168	111	1.064	20.4	19.5
80.0	80.9	<-51	1.4212	113	1.066	25.4	24.1
85.0	85.7	<-51	1.4253	116	1.066	31.6	29.8
90.0	90.5	<-51	1.4291	121	1.065	39.5	36.9
95.0	95.3	<-51	1.4327	129	1.062	49.5	45.7
100.0	100.0	<-51	1.4360	142	1.057	62.3	56.5

1. Typical properties not to be construed as specification, complete sales specification is available on request.

NOTE: Generally, for an extended margin of protection, you should select a temperature in this table that is at least 3°C lower than the expected lowest ambient temperature. Please contact Dow on specific cases or further assistance.

Saturation properties of DOWCAL™ 200 Heat Transfer Fluid at 30% volume concentration [1]

Temp °C	Specific Heat kJ/kg.K	Density g/cm3	Thermal conductivity W/m.K	Dyn. viscosity mPa.s
0	3.82	1.041	0.417	7.81
25	3.89	1.026	0.446	2.78
50	3.95	1.011	0.467	1.33
100	4.09	0.981	0.489	0.51
130	4.17	0.962	0.491	0.36
160	4.25	0.944	0.487	0.27

Saturation properties of DOWCAL™ 200 Heat Transfer Fluid at 40% volume concentration[1]

Temp °C	Specific Heat kJ/kg.K	Density g/cm3	Thermal conductivity W/m.K	Dyn. viscosity mPa.s
0	3.68	1.051	0.376	12.50
25	3.75	1.036	0.399	3.99
50	3.83	1.020	0.417	1.77
100	3.99	0.990	0.434	0.62
130	4.09	0.972	0.435	0.41
160	4.18	0.953	0.431	0.31

Saturation properties of DOWCAL™ 200 Heat Transfer Fluid at 50% volume concentration[1]

Temp °C	Specific Heat kJ/kg.K	Density g/cm3	Thermal conductivity W/m.K	Dyn. viscosity mPa.s
0	3.51	1.060	0.337	20.33
25	3.6	1.045	0.356	5.81
50	3.7	1.029	0.370	2.37
100	3.88	0.999	0.384	0.75
130	3.99	0.981	0.384	0.49
160	4.1	0.962	0.379	0.35

1. Typical properties not to be construed as specification, complete sales specification is available on request

Handling Precaution

Before using this product, consult the Safety Data Sheet (SDS) for details on product hazards, recommended handling precautions and product storage.

Disposal Considerations

Dispose in accordance with all local, state (provincial) and federal regulations. Empty containers may contain hazardous residues. This material and its container must be disposed in a safe and legal manner. It is the user's responsibility to verify that treatment and disposal procedures comply with local, state (provincial) and federal regulations. Contact your Dow Technical Representative for more information.

Product Stewardship

Dow has a fundamental concern for all who make, distribute, and use its products, and for the environment in which we live. This concern is the basis for our product stewardship philosophy by which we assess the safety, health, and environmental information on our products and then take appropriate steps to protect employee and public health and our environment. The success of our product stewardship program rests with each and every individual involved with Dow products - from the initial concept and research, to manufacture, use, sale, disposal, and recycle of each product.

Customer Notice

Dow strongly encourages its customers to review both their manufacturing processes and their applications of Dow products from the standpoint of human health and environmental quality to ensure that Dow products are not used in ways for which they are not intended or tested. Dow personnel are available to answer your questions and to provide reasonable technical support. Dow product literature, including safety data sheets, should be consulted prior to use of Dow products. Current safety data sheets are available from Dow.

Contact:
www.dow.com/contact