



DOWCAL™ N

Product Type Inhibited Propylene Glycol-based heat transfer fluid

Applications

- Better freeze protection
- Better corrosion protection in hot and cold systems
- FDA-approved safe food additive
- Compatible with commonly used elastomers
- Long fluid life and low maintenance costs
- Greater cost-effectiveness
- Low acute oral toxicity

Recommended Use Temperature Range -45°C (-50°F) to 120°C (250°F)

Description DOWCAL™ N heat transfer fluid is a propylene glycol-based fluid that is low in acute oral toxicity and widely used to depress freeze points in food and beverage processing and in other applications. Available only in Europe, it features a specially formulated corrosion inhibitor package.

Typical Properties†

Composition (% by weight)	
Propylene Glycol	96
Performance Additives	4
Color	Pale yellow
Specific Gravity 15/15°C (60/60°F)	1.050-1.060
pH of Solution (50% glycol)	9.0-10.0
Reserve Alkalinity (min.)	10.0 ml

†Typical properties, not to be construed as specifications. Complete sales specifications are available on request.

Typical Freezing and Boiling Points of DOWCAL N Fluid†

Wt. % Ethylene Glycol	Vol. % Ethylene Glycol	Wt. % DOWFROST	Vol. % DOWFROST	Freezing Point		Boiling Point °C @ 101 kPa (°F @ 760 mmHG)		Refractive Index 22°C (72°F)
				°C	(°F)			
0.0	0.0	0.0	0.0	0	(32.0)	100	(212)	1.333
5.0	4.8	5.2	5.0	-2	(29.1)	100	(212)	1.339
10.0	9.6	10.5	10.1	-3	(26.1)	100	(212)	1.344
15.0	14.5	15.7	15.2	-5	(22.9)	100	(212)	1.350
20.0	19.4	20.9	20.3	-7	(19.2)	101	(213)	1.356
25.0	24.4	26.2	25.5	-10	(14.7)	101	(214)	1.364
30.0	29.4	31.4	30.8	-13	(9.2)	102	(216)	1.369
35.0	34.4	36.6	36.1	-16	(2.4)	103	(217)	1.375
40.0	39.6	41.9	41.5	-21	(-6.0)	104	(219)	1.380
45.0	44.7	47.1	46.8	-27	(-16.1)	104	(220)	1.386
50.0	49.9	52.4	52.3	-34	(-28.3)	106	(222)	1.392
55.0	55.0	57.6	57.6	-42	(-42.8)	106	(223)	1.397
60.0	60.0	62.8	62.8	-51	(-59.9)	107	(225)	1.402
65.0	65.0	68.1	68.1	a	a	108	(227)	1.407
70.0	70.0	73.3	73.3	a	a	110	(230)	1.411
75.0	75.0	78.5	78.5	a	a	114	(237)	1.416
80.0	80.0	83.8	83.8	a	a	119	(245)	1.420
85.0	85.0	89.0	89.0	a	a	128	(257)	1.424
90.0	90.0	94.2	94.2	a	a	138	(270)	1.428
95.5	95.0	100.0	100.0	a	a	167	(310)	1.432

†Typical properties, not to be construed as specifications.

°Freezing points are below -50°C (-60°F).

NOTE: Generally for an extended margin of protection, you should select a temperature in this table that is at least 3°C (5°F) lower than the expected lowest ambient temperature. Inhibitor levels should be adjusted for solutions of less than 30% glycol. Contact Dow for information on specific cases or further assistance.

Saturation Properties of DOWCAL N Fluid at 30% Propylene Glycol Concentration by Volume

Temperature		Specific Heat	Density	Thermal Conductivity	Viscosity
°C	(°F)	kJ/(kg)(K)	kg/m ³	W/mK	mPa·s
0	(32)	3.81	1,036	0.428	6.43
25	(77)	3.88	1,026	0.456	2.43
50	(122)	3.95	1,013	0.476	2.22
75	(167)	4.01	996	0.489	0.74
100	(212)	4.08	977	0.493	0.51
120	(248)	4.13	959	0.492	0.41

Saturation Properties of DOWCAL N Fluid at 40% Propylene Glycol Concentration by Volume

Temperature		Specific Heat	Density	Thermal Conductivity	Viscosity
°C	(°F)	kJ/(kg)(K)	kg/m ³	W/mK	mPa·s
0	(32)	3.67	1,045	0.391	11.40
25	(77)	3.75	1,034	0.413	3.51
50	(122)	3.83	1,019	0.429	1.59
75	(167)	3.91	1,002	0.438	0.92
100	(212)	3.99	981	0.441	0.62
120	(248)	4.05	962	0.439	0.49

Saturation Properties of DOWCAL N Fluid at 50% Propylene Glycol Concentration by Volume

Temperature °C (°F)		Specific Heat kJ/(kg)(K)	Density kg/m ³	Thermal Conductivity W/mK	Viscosity mPa·s
0	(32)	3.50	1,052	0.357	16.33
25	(77)	3.59	1,040	0.374	4.93
50	(122)	3.69	1,024	0.385	2.14
75	(167)	3.78	1,005	0.392	1.18
100	(212)	3.87	984	0.393	0.76
120	(248)	3.95	964	0.390	0.58

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Contact information:

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