

DOWCAL® N

Feature

Dowcal N is a low-toxic propylene glycol-based product, primarily intended for sensitive applications consisting of FDA-approved components. This means that it is registered and approved for use in the food and pharmaceutical industry.

Dowcal N is registered with **NSF**, which issued the following letter "This product is acceptable for use as a heat transfer fluid where there is possibility of incidental food contact (HT1)."

Dowcal N fits the most common materials in heating and cooling systems (metals, plastics, rubber, etc.).

With solutions exceeding 30% by volume, adequate corrosion and explosion protection is obtained.

Applications

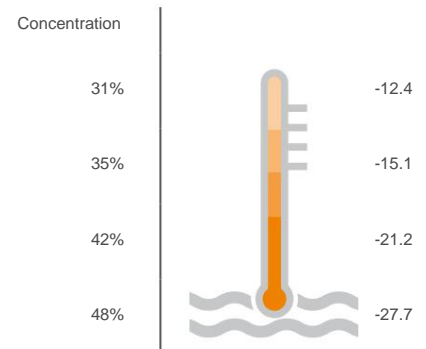
- Cooling of liquid food/beverages
- Fermented cooling
- Packaging of carbonated drinks
- Immersion freezing of packaged food
- Defrosting of cooling coils
- Defrosting of transport rollers/belts



Packaging

- Plastic can 25 litres
- Tin barrel 208 litres
- Container 1000 litres
- Tank truck

Freezing point °C



PHYSICAL DATA

Operating temp	-45 °C to +120 °C
Boiling point at 1013 millibars	+170 °C
Flash-point	+101 °C
Dynamic viscosity at 20 °C	73-78 mPa·s
Kinematic viscosity at 20 °C	69-74 mm ² /s
Refractive index nD (20 °C)	1,432
Density at 20 °C	1.045-1.055 g/cm ³
Color	slightly yellow colored liquid
LD50 (oral rat)	21-34 g/kg (applies to propylene glycol)

Miscibility

Dowcal N must be mixed with deionized or demineralized water, must not be mixed with other industrial glycols on the market.

Univar Solutions can offer ready-to-use solutions according to your wishes. The entire handling of *Dowcal N* then follows GMP (good manufacturing practice).

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Typical freezing, boiling points and other properties of DOWCAL™ N Fluid

DOWCAL™ N	DOWCAL™ N	FREEZING POINT	REFRACTIVE INDEX	BOILING POINT	DENSITY	DUNE. VISCOSITY	CHIN. VISCOSITY
VOL.%	Wt. %	°C	@ 20°C	°C @ 1 ONLY	g/cm ³ @ 20°C	mPa.s @ 20°C	mm ² /s @ 20°C
5.0	5.2	-1.6	1.3383	100	1.004	1.2	1.2
10.0	10.5	-3.3	1.3438	100	1.009	1.4	1.4
15.1	15.7	-5.1	1.3495	100	1.014	1.6	1.6
20.3	20.9	-7.1	1.3555	101	1.020	2.0	2.0
21.3	22.0	-7.6	1.3567	101	1.021	2.0	2.0
22.4	23.0	-8.0	1.3579	101	1.022	2.1	2.1
23.4	24.1	-8.6	1.3591	101	1.023	2.2	2.2
24.5	25.1	-9.1	1.3603	101	1.023	2.3	2.2
25.5	26.2	-9.6	1.3615	101	1.024	2.4	2.3
26.5	27.2	-10.2	1.3627	101	1.025	2.5	2.4
27.6	28.3	-10.8	1.3639	101	1.026	2.6	2.5
28.6	29.3	-11.4	1.3651	102	1.027	2.7	2.6
29.7	30.4	-12.0	1.3663	102	1.028	2.9	2.8
30.7	31.4	-12.7	1.3675	102	1.029	3.0	2.9
31.8	32.5	-13.4	1.3687	102	1.030	3.1	3.0
32.8	33.5	-14.1	1.3698	102	1.031	3.3	3.2
33.9	34.6	-14.8	1.3710	102	1.032	3.4	3.3
35.0	35.6	-15.6	1.3721	102	1.032	3.5	3.4
36.0	36.6	-16.4	1.3733	103	1.033	3.7	3.6
37.1	37.7	-17.3	1.3744	103	1.034	3.9	3.8
38.2	38.7	-18.2	1.3756	103	1.035	4.0	3.9
39.2	39.8	-19.1	1.3767	103	1.036	4.2	4.1
40.3	40.8	-20.1	1.3779	103	1.036	4.4	4.2
41.4	41.9	-21.1	1.3790	104	1.037	4.5	4.3
42.4	42.9	-22.1	1.3802	104	1.038	4.7	4.5
43.5	44.0	-23.2	1.3813	104	1.039	4.8	4.6
44.5	45.0	-24.3	1.3825	104	1.039	5.0	4.8
45.7	46.1	-25.5	1.3836	104	1.040	5.2	5.0
46.7	47.1	-26.7	1.3847	104	1.041	5.4	5.2
47.8	48.2	-27.9	1.3858	104	1.041	5.6	5.4
48.9	49.2	-29.3	1.3870	104	1.042	5.8	5.6
50.0	50.3	-30.6	1.3881	105	1.043	6.1	5.8
51.1	51.3	-32.1	1.3892	105	1.043	6.3	6.0
52.2	52.4	-33.5	1.3903	106	1.044	6.6	6.3
53.2	53.4	-35.0	1.3914	106	1.045	6.9	6.6
54.3	54.5	-36.6	1.3924	106	1.045	7.2	6.9
55.4	55.5	-38.2	1.3935	106	1.046	7.6	7.3
60.6	60.7	-47.1	1.3987	107	1.048	9.3	8.9
61.7	61.8	-49.0	1.3998	107	1.049	9.7	9.2
62.7	62.8	-51.0	1.4008	107	1.049	10.0	9.5
68.0	68.1	-51.0	1.4058	108	1.052	11.7	11.1
73.2	73.3	-51.0	1.4104	110	1.054	14.2	13.5
78.4	78.5	-51.0	1.4150	114	1.055	17.1	16.2
83.6	83.8	-51.0	1.4193	118	1.054	21.2	20.1
88.9	89.0	-51.0	1.4235	125	1.053	26.0	24.7
94.1	94.2	-51.0	1.4275	132	1.052	33.4	31.7
100.0	100.0	-51.0	1.4320	165	1.051	35.7	34.0
100.0	100.0	-28.7	1.4319	145.1	1.119	25.7	22.9

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