



## AMBITROL™ Inhibited Propylene Glycol-based Coolants

### Description

AMBITROL™ inhibited propylene glycol-based coolants are robust industrial formulations designed to protect against over-heating in summer and circulating system freeze-up in winter. Because they are propylene glycol-based, these coolants are very low in toxicity and they offer particular protection against cavitation erosion damage to cylinder liners of wetsleeve stationary engines. Dow supplies four AMBITROL™ inhibited propylene glycol-based coolants:

- AMBITROL™ NTC Coolant — a concentrated, inhibited propylene glycol coolant to be diluted with distilled (or deionized) water to concentrations ranging from 30% to 60% by volume.
- AMBITROL™ NTF 50 Coolant — the standard, completely formulated, prediluted solution of 50% propylene glycol, deionized water and a complete inhibitor package.
- AMBITROL™ NTF 40 Coolant — a completely formulated, prediluted solution of 40% propylene glycol, deionized water and a complete inhibitor package.
- AMBITROL™ NTF 30 Coolant — a completely formulated, prediluted solution of 30% propylene glycol, deionized water and a complete inhibitor package.

### Recommended Use Temperature Range

At a solution of 50% (by volume), AMBITROL™ propylene glycol-based coolants can provide freeze protection to -29°F and boil protection up to 222°F.

### Typical Properties<sup>1</sup> of AMBITROL™ Inhibited Propylene Glycol-based Coolants

	AMBITROL™ NTC Coolant	AMBITROL™ NTF 50 Coolant	AMBITROL™ NTF 40 Coolant	AMBITROL™ NTF 30 Coolant
Composition (% by volume) propylene glycol	96	50	40	30
Color	Blue	Yellow	Yellow	Yellow
Specific gravity (at 60°F/60°F)	1.055	1.048	1.040	1.031
pH of solutions	na	9.5	9.5	9.5
Reserve alkalinity (min.)	11.0	11.0	11.0	11.0
Flash point, °F (P.M.C.C. <sup>2</sup> )	214	None	None	None
Fire point, °F (C.O.C. <sup>3</sup> )	220	None	None	None

1. Typical properties, not to be construed as specifications
2. Pensky-Martens closed cup
3. Cleveland open cup

## Suitable Applications

AMBITROL™ propylene glycol-based coolants are designed specifically for large, stationary engines such as those running compressors to transmit natural gas through pipeline distribution systems. Due to their low toxicity, these coolants are recommended for use where incidental contact with drinking water or ground water is possible. These heat transfer fluids also provide heat transfer properties and freeze and corrosion protection in gas distribution line heaters and other indirect heaters.

For health and safety information for this product, contact your Dow sales representative or call the number for your area listed on the back of this sheet for a Material Safety Data Sheet (MSDS).

## Typical Properties<sup>1</sup> of AMBITROL™ Aqueous Solutions

Physical Property	Temp. °F	AMBITROL™ NTC Coolant (96% glycol)	AMBITROL™ NTF 50 Coolant (50% glycol)	AMBITROL™ NTF 40 Coolant (40% glycol)	AMBITROL™ NTF 30 Coolant (30% glycol)
Thermal Conductivity, (Btu/(hr) (ft <sup>2</sup> ) (°F/ft))	40	0.118	0.197	0.222	0.248
	180	0.113	0.222	0.249	0.280
Specific Heat, Btu/(lb) (°F)	40	0.57	0.84	0.89	0.93
	180	0.68	0.91	0.93	0.96
Viscosity, Centipoise	40	180	14	9	0.6
	180	4	1.1	0.85	0.70
Density, (g/ml)	40	1.052	1.057	1.048	1.036
	180	0.990	1.003	0.998	0.992

1. Typical properties, not to be construed as specifications

## Freezing/Boiling Points of Aqueous Solutions

(solutions of AMBITROL™ NTC Coolant except where noted)

Freezing Point °F	% Glycol (by vol.)	Boiling Temp. °F
26	10 <sup>1</sup>	212
18	20 <sup>1</sup>	213
8	AMBITROL™ NTF 30 Coolant	216
-7	AMBITROL™ NTF 40 Coolant	219
-29	AMBITROL™ NTF 50 Coolant	222
-60	60	225
< -60	70	230
< -60	80	245
< -60	90	263
< -60	100	370

1. Corrosion protection may be inadequate at concentrations this low.

## Corrosion Test Results/Weight Loss of AMBITROL™ in Milligrams

(mils penetration/yr.)<sup>1</sup>

	Water	Uninhibited Propylene Glycol	AMBITROL™ Inhibited Propylene Glycol
Copper	2 (0.08)	4 (0.16)	1 (0.04)
Solder	99 (3.14)	1095 (34.7)	2 (0.06)
Brass	5 (0.23)	5 (0.20)	2 (0.08)
Mild Steel	212 (9.69)	214 (9.80)	1 (0.04)
Cast Iron	450 (21.2)	345 (16.2)	1 (0.05)
Aluminum	110 (13.2)	15 (1.80)	+3 (0.36)

Samples with a "+" showed weight gain.

1. ASTM D1384 — 190°F for 2 weeks, 30% glycol by volume, air bubbling.

**Contact:**

[www.dow.com/contact](http://www.dow.com/contact)

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