DATA SHEET

H50PG-HTF

Propylene Glycol-Based Heat Transfer Fluid Concentrate

H50PG-HTF, tested according to ASTM D1384, exceeds the performance requirements outlined in ASTM D3306. The inhibitor system is based on a high-phosphate, multicomponent formulation, which makes H50PG-HTF functionally equivalent to other leading brands and allows it to be mixed with them effectively.

This formula contains 96.0% propylene glycol and 4.0% inhibitors.

APPLICATIONS

- HVAC systems
- Process cooling and heating
- Solar heating
- Refrigeration warehouse floor heating
- Thermal energy storage
- Ice skating rinks
- Sidewalk snow melting systems
- Cold room dehumidifiers

FREEZE AND BURST PROTECTION

H50PG-HTF has a recommended operating temperature range of -60° F to 300° F and provides both freeze and burst protection for systems exposed to very low temperatures.

To obtain adequate freeze protection, select a glycol concentration with a freeze point at least 5° F below the lowest anticipated ambient temperature. The concentration should be at least 30% propylene glycol to maintain adequate corrosion inhibitors.

CORROSION PROTECTION

H50PG-HTF provides outstanding corrosion protection for copper, brass, solder, steel, cast iron, and aluminum. It meets or exceeds ASTM D1384 and is completely compatible with most plastics, elastomers, and rubbers. H50PG-HTF also contains tolyltriazole to protect multimetal systems.

In addition, its effective buffering system neutralizes acids formed by the normal thermal and oxidative degradation of ethylene glycol, keeping the pH in its optimal range.

BENEFITS

- Made of a propylene-glycol base that reduces toxicity and disposal requirements
- Is the functional equivalent of Dowfrost™ and JEFFCOOL® P150
- Operates at temperatures from -60° F to 300° F
- Contains a unique additive package to::
  - Shield iron, steel, and aluminum metal surfaces from acidic attack and rust formation
  - Prevent scaling and fouling of heat transfer surfaces
  - Buffer the pH to maintain it in the optimal operating range

RECOMMENDATIONS FOR DILUTION

Water used to dilute H50PG-HTF can be low-hardness city water or well water, although the use of deionized water or distilled water is best. The recommendation is to use water with no more than 350 ppm hardness to dilute H50PG-HTF concentrate or as make-up water.

H50PG-HTF	Temp (°F)	30% Glycol Solution	40% Glycol Solution	50% GLycol Solution	60% Glycol Solution
Thermal Conductivity [BTU/(hr·ft³) (°F/ft)]	40	0.253	0.231	0.211	0.190
	180	0.285	0.255	0.228	0.199
	325	0.284	0.254	0.217	0.189
Specific Heat [BTU/(lb·°F)]	40	0.915	0.855	0.802	0.74
	180	0.967	0.924	0.886	0.839
	325	0.992	0.995	0.973	0.942
Viscosity, Centipoise	40	5.69	9.58	14.01	23.11
	180	0.62	0.81	1	1.21
	325	0.38	0.34	0.37	0.39
Density (lb/ft³)	40	64.76	66.33	67.00	67.60
	180	62.01	62.91	63.79	64.11
	325	58.61	58.73	59.02	59.04

Vol. % Propylene Glycol	Vol. % Glyeco H50PG-HTF Concentrate	Freezing Point °F	Boiling Point °F @760 mm Hg
15	15.6	22.7	213
30	31.2	8.4	216
40	41.6	-6.7	218
50	52.1	-28.6	222
60	62.5	-59.9	226

H50PG-HTF Characteristics

Composition (Concentrate)

Propylene Glycol	96.0 volume % max.
Inhibitors and Proprietary Ingredients	4.0 volume % min.

Color

Yellow (or custom dye option)

pH

50% Solution	9.5-10.8

Specific Gravity @70°F (21.1°C)

96% Solution	1.04-1.06 min.
50% Solution	1.030 min.

Reserve Alkalinity

96% Solution	10.0 ml. min
50% Solution	5.0 ml. min.

Flash Point Glycol

96% Solution	220°F min.
50% Solution	none