PGI

PROPYLENE GLYCOL–BASED INDUSTRIAL HEAT TRANSFER FLUID

PRODUCT #227 (CONC.) #217 (PREMIX)

Overview

PGI-HTF is an industrial formulated heat transfer fluid containing an additive package that controls corrosion of metals, helps prevent scaling and fouling of heat transfer surfaces and buffers the pH to maintain it in the optimum operating range. PGI-HTF tested according to the ASTM standard methods, exceeds the performance requirements of the industry. The product is available as concentrate and ready-to-use premixes. The inhibitor system is based on a high-phosphate, multi-component formulation which makes it ideal for a wide variety of commercial and industrial applications.

Product Features:

- Inhibitor system is phosphate-based, plus additional ingredients for heavy industrial applications.
- Functionally equivalent to DOWFROST HD™ and JEFFCOOL® P150 and can be mixed with these products with no adverse effects.
- Operating range of -60ºF to +300ºF.
- Controls corrosion of system metals.
- Helps prevent fouling of heat transfer surfaces.
- Buffers the pH to maintain it in the optimal operating range.
- Propylene Glycol base reduces toxicity and disposal requirements.

Applications:

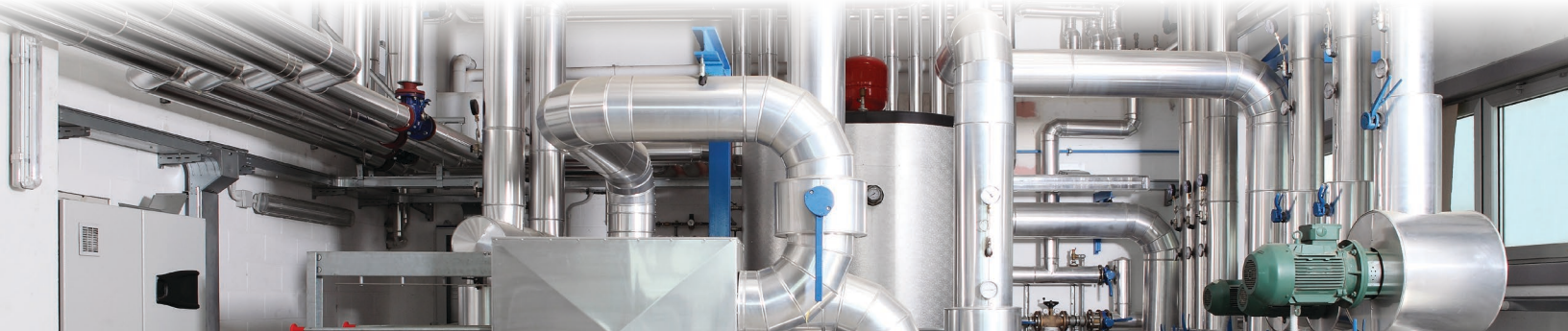
- HVAC system freeze / burst / corrosion protection
- Process cooling/heating
- Solar heating
- Floor heating
- Thermal energy storage
- Ice skating rinks
- Sidewalk snow melting systems
- Cold room dehumidification

Operating Temperature Range and Freeze/Burst Protection

PGI-HTF has a recommended operating temperature range of -60ºF to +300ºF, and can be used to provide both freeze and burst protection for systems which may be 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. When diluting concentrate maintain at least 30% PGI by volume for adequate corrosion protection.

Corrosion Protection

PGI-HTF provides outstanding corrosion protection for copper, brass, solder, steel, and cast iron and aluminum. It meets or exceeds ASTM D8039/D8040. It is also compatible with most plastics, elastomers and types of rubber. Its corrosion protection system protects iron, steel, cast iron, brass, solder and aluminum protecting these metals from acidic attack and rust formation. The buffering system neutralizes acids formed by the normal thermal and oxidative degradation of glycols, thus maintaining the pH in its optimum range.



Crystal Clean®

PGI

PROPYLENE GLYCOL–BASED INDUSTRIAL HEAT TRANSFER FLUID

PRODUCT #227 (CONC.) #217 (PREMIX)

Physical Property	Temp(°F)	15% Glycol Solution	30% Glycol Solution	40% Glycol Solution	50% Glycol Solution	60% Glycol Solution
Thermal Conductivity [BTU/(hr·ft3) (°F/ft)]	40	0.282	0.253	0.231	0.211	0.190
	180	0.327	0.285	0.255	0.228	0.199
	250	0.321	0.284	0.254	0.217	0.189
Specific Heat [(BTU/(lb·°F)]	40	0.955	0.915	0.855	0.802	0.740
	180	0.989	0.967	0.924	0.886	0.839
	250	1.010	0.992	0.995	0.973	0.942
Viscosity, Centipoise	40	2.85	5.69	9.58	14.01	23.11
	180	0.49	0.62	0.81	1.00	1.21
	250	0.20	0.38	0.34	0.37	0.39
Density, (lb/ft3)	40	63.67	64.76	66.33	67.00	67.60
	180	61.36	62.01	62.91	63.79	64.11
	250	58.28	58.61	58.73	59.02	59.04

Composition (Concentrate)

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

Color *Pink (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 Propylene Glycol

50% Solution none

Vol. % Propylene Glycol	Vol. % PGI-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

Water Quality Requirements

Water used to dilute PGI-HTF can be low-hardness, city water or well water, although the use of deionized water or distilled water is best. It is recommended that water with no more than 170 ppm hardness be used to dilute PGI-HTF concentrate or be used as make-up water.