

SAFE-T-THERM® GRAS, SAFE-T-THERM® GRAS Biobased,
SAFE-T-THERM® Classic & SAFE-T-THERM® Classic Biobased

PROPYLENE GLYCOL BASE HYDRONIC HEAT TRANSFER FLUID

Comparative Corrosion Test Data – Using ASTM D1384 Test Method

	SAFE-T-THERM® GRAS, SAFE-T-THERM® GRAS Biobased, SAFE-T-THERM® Classic & SAFE-T-THERM® Classic Biobased ^{1,3}		Boston Tap Water ²		Propylene Glycol Uninhibited ^{2,3}	
	*	**	*	**	*	**
Copper	-1	0.05	-10	0.40	-4	0.20
Solder	-1	0.03	-140	5.60	-1112	34.70
Brass	-3	0.10	-10	0.40	-5	0.20
Steel	-2	0.08	-300	14.70	-214	9.80
Cast Iron	-4	0.20	-570	24.10	-345	16.20
Aluminum	-3	0.40	-34	4.00	-15	1.80

1. Data shown for SAFE-T-THERM® GRAS, SAFE-T-THERM® GRAS Biobased, SAFE-T-THERM® Classic & SAFE-T-THERM® Classic Biobased is an average of many tests. Houghton Chemical Hydronic Fluid test data shown are typical, not varying significantly from test to test, indicating uniform and effective corrosion protection.
2. Data shown for Boston Tap Water and Propylene Glycol Uninhibited are averages of several test observations. Actual data varies dramatically from test to test and are always indicative of high corrosion rates.
3. SAFE-T-THERM® GRAS, SAFE-T-THERM® GRAS Biobased, SAFE-T-THERM® Classic & SAFE-T-THERM® Classic Biobased and Propylene Glycol Uninhibited solutions in Boston Tap Water.

* Loss expressed in milligrams per test coupon

** Loss expressed in millimeters per year thickness of metal, approximate