



Heat Transfer Fluids

When You Gamble with an Improperly Inhibited Fluid, the System is the Biggest Loser

Corrosion. Next to freeze-ups, it's one of the biggest threats to heating and cooling efficiency water-based HVAC systems face. Even under relatively moderate conditions, corrosion can rapidly strip away precious layers of metal from system components and eventually foul chiller coils.

As the photos below illustrate, an uninhibited glycol-based fluid can cause corrosion. Yet, even an inhibited glycol fluid will corrode your system if it's not inhibited properly.

DOWTHERM™ and DOWFROST™ Fluids, on the other hand, contain precisely formulated industrial inhibitor packages that are proven highly effective in preventing corrosion of metals commonly used in HVAC systems. And, unlike some other inhibited glycol fluids, DOWTHERM and DOWFROST fluids can be easily analyzed to determine corrosion inhibitor condition. Properly maintained, DOWTHERM and DOWFROST fluids may not require reinhibiting for up to 20 years.

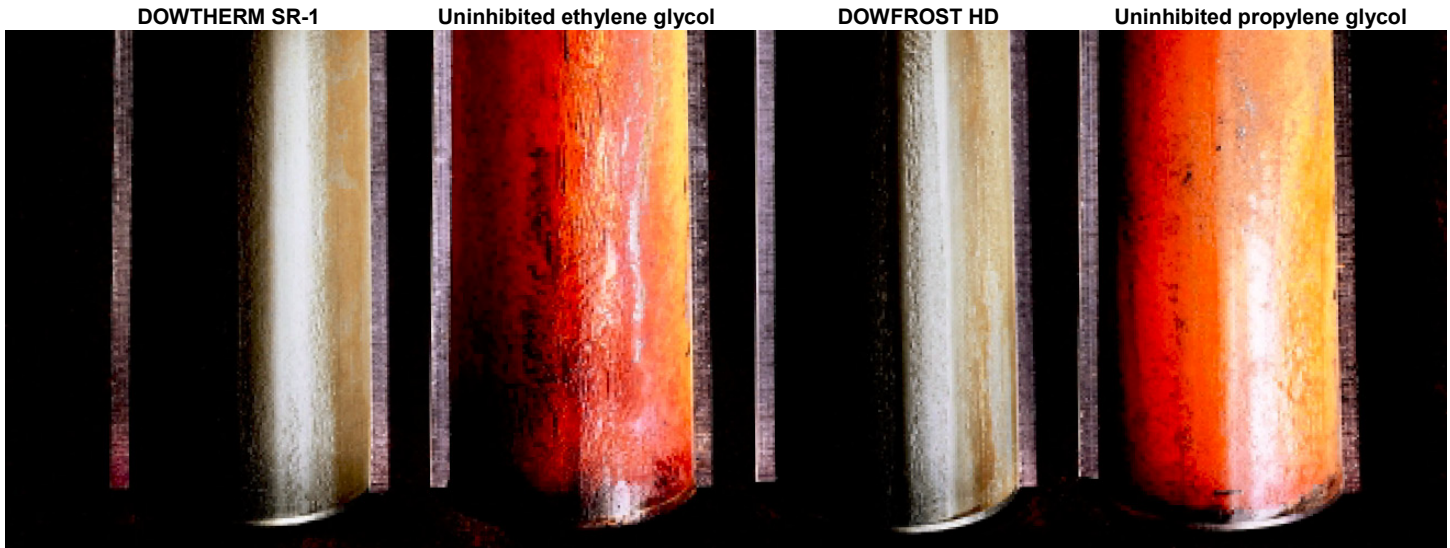
Another reason DOWTHERM and DOWFROST fluids are such a good bet for HVAC systems? They're backed by complete fluid support services, including free annual fluid analysis for systems containing 250 gallons of fluid (as concentrate) or more.

Comparative Corrosion Effects of Fluids on Common Metals
Corrosion Rate (mils per year)

	Water	Uninhibited Propylene Glycol	DOWFROST HD Fluid	Uninhibited Ethylene Glycol	DOWTHERM SR-1 Fluid
Copper	0.08	0.16	0.04	0.16	0.12
Solder	3.14	34.7	0.06	56.5	0.13
Brass	0.23	0.20	0.08	0.46	0.12
Mild Steel	9.69	9.80	0.04	44.5	0.04
Cast Iron	21.2	16.2	0.05	55.7	0.13
Aluminum	13.2	1.80	+0.36	19.8	0.44

*Rates in excess of 0.5 mpy (2.5 for aluminum) are generally evidence of inadequate corrosion protection.
Sample with a "+" showed weight gain.
ASTM D1384—190°F for 2 weeks, 30% by volume glycol, air bubbling.*

Uninhibited glycol solutions, improperly inhibited glycols, and even water, can all lead to extensive corrosion of HVAC system piping and other metal components. The industrial inhibitor packages in DOWTHERM and DOWFROST fluids are specially formulated to prevent corrosion.



Pictured results based on air bubbling at ambient temperature-3 weeks; Schedule 40 steel pipe, 2" dia.; 30% glycol in deionized water.