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## SAFE-T-THERM® HDN Product Data Sheet

**Inhibited Propylene Glycol Based Heat Transfer Fluid  
Formulated to satisfy the GE Specification GEI41004m.**

SAFE-T-THERM® HDN Heat Transfer Fluid is a heavy duty inhibited propylene glycol solution formulated for use in hydronic systems for freeze and corrosion protection. SAFE-T-THERM® HDN is designed to provide functionality in extremely challenging circumstances. SAFE-T-THERM® HDN contains yellow metal inhibitors and nitrite (to provide enhanced corrosion protection in large standing internal combustion engines where cylinder vibrations may cause waterside pitting). SAFE-T-THERM® HDN is sometimes also used in less demanding applications because the heavy duty inhibitors last longer and maintenance requirements can be reduced.

SAFE-T-THERM® HDN includes an orange dye, for leak detection. SAFE-T-THERM® HDN is designed to protect components commonly found in residential and commercial systems as well as demanding stationary applications such as emergency power generators and independent equipment motors. SAFE-T-THERM® HDN can also be used with aluminum at temperatures below 150°F (66°C). At temperatures above 150°F (66°C), use of SAFE-T-THERM® HDN is not recommended. SAFE-T-THERM® HDN should not be used with galvanized steel, Polyvinyl chloride (PVC) or Chlorinated polyvinyl chloride (CPVC).

Recommended use temperature range: -50°F (45°C) to 325°F (163°C).

For health and safety information for this product, contact Houghton for a Safety Data Sheet (SDS).

SAFE-T-THERM® HDN Typical Properties by Concentration							
Properties <sup>1</sup>	Conc.	60%	50%	40%	35%	30%	25%
Propylene Glycol	91%	60%	50%	40%	35%	30%	25%
Performance Additives and Water	9%	40%	50%	60%	65%	70%	75%
Appearance	Liquid, Clear, Orange	Liquid, Clear, Orange	Liquid, Clear, Orange	Liquid, Clear, Orange	Liquid, Clear, Orange	Liquid, Clear, Orange	Liquid, Clear, Orange
Specific Gravity (15/15°C 60/60°F)	1.050 - 1.058	1.050 - 1.059	1.043 - 1.054	1.035 - 1.042	1.034 - 1.042	1.029 - 1.038	1.024 - 1.034
Freeze Point (maximum)	-22°F / -31°C (as 50%)	-49°F / -45°C	-22°F / -31°C	-4°F / -20°C	4°F / -16°C	10°F / -12°C	15°F / -10°C
pH 50% glycol	9.0 - 10.7	9.0 - 10.7	9.0 - 10.7	9.0 - 10.7	9.0 - 10.7	9.0 - 10.7	9.0 - 10.7
Reserve Alkalinity (minimum)	23	14	12	9	8	7	6
Nitrite (as NO <sub>2</sub> ) (minimum)	2400 ppm	1440 ppm	1200 ppm	960 ppm	840 ppm	720 ppm	600 ppm

<sup>1</sup>Concentrate based on volume of Propylene Glycol, mixtures based on volume of SAFE-T-THERM® HDN

Typical properties, not to be construed as specifications. As use conditions are not within its control, Houghton Chemical Corporation does not guarantee results from use of the information or products herein; and gives no warranty, express or implied.

NOTE: These figures are examples only and may not be appropriate to your situation. Generally, for an extended margin of protection, you should select a temperature in this table that is at least 3°C (5°F) lower than the expected lowest ambient temperature. Houghton Chemical Corporation recommends a minimum glycol concentration of 25%. At lesser concentrations the likelihood of bacteria growth increases. Also, at less than 25% concentrations there may not be enough inhibitor present to prevent corrosion of the system metals. Additional inhibitors can be purchased from Houghton Chemical Corporation.

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