

# HOUGHTON CHEMICAL CORPORATION

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

### Inhibited Propylene Glycol Based Heat Transfer Fluid

SAFE-T-THERM® GRAS heat transfer fluid is an inhibited propylene glycol solution designed for use in hydronic systems for freeze and corrosion protection. SAFE-T-THERM® GRAS heat transfer fluid is formulated with ingredients which are generally recognized as safe (GRAS) by the FDA for use as an aqueous heat transfer medium for closed primary and secondary refrigeration and cooling systems. Components in our formulation conform to the requirements of 21 CFR 184.1666; 21 CFR 182.6285; 21CFR 74.1705, 74.1706 & 74.2340 as applicable. A letter from the USDA can be provided upon request, and the product is currently registered with NSF® International and listed in the NSF® White Book™ - Nonfood Compounds Listing Directory.

SAFE-T-THERM® GRAS includes an orange dye, for leak detection. SAFE-T-THERM® GRAS is designed to protect components commonly found in residential and commercial systems. SAFE-T-THERM® GRAS 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® GRAS is not recommended because the inhibitors will not fully protect aluminum components in the system. SAFE-T-THERM® GRAS should not be used with galvanized steel, Polyvinyl chloride (PVC) or Chlorinated polyvinyl chloride (CPVC).

Recommended use temperature range: -50°F (-45°C) to 230°F (110°C)

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

SAFE-T-THERM® GRAS							
Typical Properties by Concentration							
Properties <sup>1</sup>	Conc.	60%	50%	40%	35%	30%	25%
Propylene Glycol	96%	60%	50%	40%	35%	30%	25%
Performance Additives and Water	4%	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)	1.055 - 1.065	1.050 - 1.059	1.043 - 1.054	1.035 - 1.042	1.034 - 1.042	1.029 - 1.038	1.024 - 1.034
pH 50% glycol	9.0 - 11.0	9.0 - 11.0	9.0 - 11.0	9.0 - 11.0	9.0 - 11.0	9.0 - 11.0	9.0 - 11.0
Reserve Alkalinity (min)	12	6	6	4	4	3	3
Freeze Point Max	-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

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

Typical properties, not to be construed as specifications. As use conditions are not within its control, Houghton 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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