Houghton Chemical Corporation

Safety Data Sheet

HOUGHTON

SAFE-T-THERM® HD

Section 1 - Identification	
Manufacturer Address	Houghton Chemical Corporation 52 Cambridge Street, Allston, MA 02134 1-617-254-1010 or 1-800-777-2466
Emergency Telephone	**CHEMTREC: 1-800-424-9300**
Chemical Name & Synonyms	Antifreeze/Inhibited Propylene Glycol
Chemical Family	Propylene Glycol Mixture
Recommended Use	Heat Transfer Fluid
Restrictions on Use	Dilution to 50% is generally recommended: dilute to meet local condition.

Section 2 – Hazard(s) Identification	
Hazard Classification	Not Applicable
Signal Word	Not Applicable
Hazard Statement	While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of this product.
Pictogram Description	Not Applicable
Precautionary Statement	Keep container tightly closed. Keep away from heat, sparks or open flames. No smoking, drinking or eating around product. Wear protective gloves, eye and face equipment. Store in a cool, dry and well-ventilated location. Avoid release to the environment.
Any other Hazard not otherwise classified	Not Applicable

Section 3 – Composition and Information on Ingredients			
Chemical Name	Common name and synonyms	CAS #	% by weight
Propylene Glycol	1,2 - Propanediol	57-55-6	95%
Water	N/A	7732-18-5	2.5%
Inhibitors & Dye	N/A	Proprietary	2.5%

Section 4 – First aid Measures	
Symptoms of Exposure	
Acute	Irritation of affected area
Delayed	Irritation
Inhalation	Vapors and mists expected to be slightly irritating to upper respiratory tract.
Skin	Irritation may result
Eye Contact	Irritation may cause transitory stinging and tearing.
Ingestion	Very low toxicity if ingested. Ingestion of larger amounts may cause gastrointestinal upset and possible temporary central nervous system depression.
First Aid Instructions	
Inhalation	Remove to fresh air. If symptoms persist, seek medical attention.
Skin	Wash skin with soap and water. Remove any contaminated clothing. Seek medical attention if irritations develops or persists.
Eye Contact	Flush with water for at least 20 minutes. Seek medical attention if irritations develops or persists.
Ingestion	DO NOT induce vomiting, seek medical attention.
Other	Not Applicable

Section 5 – Fire Fighting Measures	
Suitable Extinguishing Material	**Water, water fog, water spray, alcohol foam, dry chemical or carbon dioxide**
Unsuitable Extinguishing Material	No Data Available
Hazards from Combustion	Smoke may contain the original material in addition to but not limited to: oxides of phosphorus, potassium, carbon, nitrogen, sulfer and hydrogen chloride.
Special Protective Equipment for Firefighters	Wear self-contained breathing apparatus and protective suit. Evacuate personnel to safe areas and keep upwind of fire.

Section 6 – Accidental Release Measures	
Use of personal precautions	Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment.
Protective equipment to prevent the contamination of skin, eyes, and clothing.	Usage of safety glasses or googles is recommended. Chemical resistant gloves, chemical resistant apron, boots, and full suit will be necessary depending on the extent of clean up task. If ventilation does not control airborne concentration then respiratory protection equipment that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements should be used.
Methods and materials used for containment	Collect liquid in an appropriate container or absorb with inert material and place in chemical waste container.
Cleanup procedures	Do not flush to sewer. Comply with all federal, state, and local regulations.
Section 7 – Handling and Storage	
Precautions for safe handling	Protect container from physical damage. Wear appropriate personal protection equipment. Do not expose containers to open flame, excessive heat, or direct sunlight. Use local exhaust over processing area. Do not eat, drink or smoke around products.
Recommendations on the conditions for safe storage, Storage/handling incompatibilities.	Store in a cool, dry and ventilated area away from sources of heat, moisture and incompatible materials. Observe all warnings and precautions listed for the product. Keep container closed to prevent contamination.
Section 8 – Exposure Controls/Personal Protection	
OSHA Permissible Exposure Limits (PELs)	Not Applicable
American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values	Not Applicable
Other Exposure Limits	AIHA WEEL is 10 mg/m3 for total vapor and aerosol.
Engineering Control	Use mechanical (general) ventilation to control airborne levels below exposure guidelines.
Individual Protection Measures	Wear protective safety glasses or goggles, gloves, apron, vapor respirator.
Section 9 – Physical and Chemical and Chemical Properties	
Appearance (physical state, color, etc.)	Liquid, Clear, Orange
Upper/lower flammability or explosive limits	Not Explosive; LOWER: 2.6% (v) UPPER: 12.5% (v)
Odor	Slight to no odor
Vapor pressure	133 Pa / 0.1 mmHg
Odor threshold	Not Applicable
Vapor density (air = 1)	2.1
pH	9.0 - 10.7
Relative density	1.057 - 1.067
Freezing point (as 50%)	-23°F / -31°C
Solubility(ies)	Miscible in water
Initial boiling point and boiling range	311°F / 155°C
Flash point	225°F / 107°C
Evaporation rate (Butyl Acetate = 1)	<1
Flammability (solid, gas)	Not Flammable
Partition coefficient: n-octanol/water	No Data Available
Auto-ignition temperature	> 700°F / > 370°C
Decomposition temperature; and	Not Applicable
Viscosity	~75 cps at 60°F
Section 10 – Stability and Reactivity	
Reactivity	Product is stable under typical use temperatures.
Chemical Stability	Product is stable under typical use temperatures.
Hazardous Reactions	Avoid contact with oxidizing materials and strong acids.
Conditions to Avoid	Heat, flames, ignition sources and incompatibles.
Incompatible Materials	Avoid contact with oxidizing agents and strong acids.
Decomposition Products	Carbon dioxide and carbon monoxide may form when heated to decomposition.

	Aldehydes, alcohols or other organic acids may also be formed.

Section 11 – Toxicological Information

Likely Routes of Exposure	Eyes / Skin / Ingestion / Inhalation	
	Effects from Short Term Exposure	Effects from Long Term Exposure
Delayed Effects	Irritation of affected area	Irritation of affected area
Immediate Effects	Irritation of affected area	Irritation of affected area
Chronic Effects	Not Applicable	Lactic acidosis, stupor and seizures have been reported following chronic ingestion.
The numerical measures of toxicity (e.g., acute toxicity estimates such as the LD50 (median lethal dose)) - the estimated amount [of a substance] expected to kill 50% of test animals in a single dose.		Skin: The LD50 for skin absorption in rabbits is >10,000 mg/kg Ingestion: The oral LD 50 for rats is 20,000 mg/kg
Description of the symptoms. This description includes the symptoms associated with exposure to the chemical including symptoms from the lowest to the most severe exposure.		Irritation of affected areas. Lactic acidosis, stupor and seizures.

Listed in the National Toxicology Program (NTP) Report on Carcinogens	No	Found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs	No	Found to be a potential carcinogen by OSHA	No

Section 12 – Ecological Information

Ecotoxicity	Low Ecotoxicity
Persistence and Degradability	Biodegradable
Bioaccumulation	Does not bioaccumulate significantly
Mobility in Soil	Dissolves in water. If product enters soil, it will be highly mobile and may contaminate ground water
Other Adverse Effects	No Data Available

Section 13 – Disposal Considerations

Do not dump into sewers, on ground or into any bodies of water. Contact local sewer, municipal, state and/or federal agencies to determine appropriate disposal options

Section 14 – Transport Information

Is product DOT regulated in Non-Bulk packaging?	No
DOT BULK	
UN number	Not Regulated
UN proper shipping name	Not Regulated
Transport hazard class(es)	Not Regulated
Packing group number	Not Regulated
Environmental hazards (e.g., identify if it is a marine pollutant according to the International Maritime Dangerous Goods Code (IMDG Code))	Not Regulated
Guidance on transport in bulk (according to Annex II of MARPOL 73/783 and the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code (IBC Code))	Not Regulated
Any special precautions which an employee should be aware of or needs to comply with, in connection with transport or conveyance either within or outside their premises	Not Regulated

Section 15 – Regulatory Information (Not indicated anywhere else on this SDS)

Safety Regulations	OSHA Hazard Communication Standard: This product is not a "Hazardous Chemical" as defined by the OSHA Hazard CommunicationStandard, 29 CFR 1910.1200.	
Health Regulations	Not Available	
Environmental Regulations	Not Available	
SARA 311/312	Based upon available information, this material is classified as the following health and/or physical hazards according to Section 311 & 312	Superfund Amendments and Reauthorization Act of 1986 Title III (SARA) Sections 311 and 312: Immediate (Acute) Health Hazard - No; Delayed (Chronic) Health Hazard - No;

		Fire Hazard - No; Reactive Hazard - No; Sudden Release of Pressure Hazard - No. Section 313: To the best of our knowledge, this product does not contain chemicals at levels which require reporting under this statute.
HMIS	Blue/Health	0
	Red/Flammability	1
	Orange/Physical Hazard	0
	White/Personal Protection	X
NFPA 0(no hazard) to 4(severe risk)	Health (Blue)	0
	Flammability (Red)	1
	Special (White)	0
	Instability/Reactivity (Yellow)	N/A
US Toxic Substance Control Act	All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements under 40 CFR 720.30	
CEPA – Domestic Substances List (DSL)	All substances contained in this product are listed on the Canadian Domestic Substances List (DSL) or are not required to be listed.	

Section 16 – Other Information

This SDS is applicable for all dilutions and containers for this brand of product. The information herein is provided in good faith and believed to be accurate as of the effective revision date shown. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/ user's responsibility to ensure that activities comply with all federal, state, provincial or local law.

Product Dilutions Differentials

Properties[1]	60%	50%	40%	35%	30%	25%
SAFE-T-THERM® HD	60%	50%	40%	35%	30%	25%
Performance Additives and Water	40%	50%	60%	65%	70%	75%
Specific Gravity ($15/15^0C$ $60/60^0F$)	1.055 - 1.062	1.050 - 1.060	1.040 - 1.050	1.035 - 1.045	1.032 - 1.042	1.030 - 1.040
Reserve Alkalinity (min)	10	8	6	6	5	4
Freeze Point Max	-49°F / -45°C	-23°F / -31°C	-4°F / -20°C	4°F / -16°C	10°F / -12°C	15°F / -10°C

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