

Houghton Chemical Corporation

52 Cambridge Street
P.O. Box 307
Allston (Boston), Massachusetts 02134

Tel: (617) 254-1010 Fax: (617) 254-2713

November 14, 2017

Environmental Health and Safety Officer
Tower Water Management
5 Shirley Ave
Somerset, NJ 08873
United States



In an effort to keep you informed of the most recent information on the safe handling and storage of the products you purchase from us (listed below), you will find enclosed a Safety Data Sheet on the product which you have purchased from us, as well as a warning on the care and handling of empty drums which may or may not have contained hazardous materials.

SAFE-T-THERM HD CONC (Contains: PROPYLENE GLYCOL; WATER; CORROSION INHIBITORS, PERFORMANCE ADDITIVES, & DYE)

There should be clear warnings to instruct all personnel concerned not to store the products in unlabeled or unmarked containers. Also, if the item is packaged as a consumer product, the label should clearly indicate for what purposes the product should be used and contain instructions for use, with appropriate warnings, as well as comply with appropriate federal and state regulations.

Please familiarize yourself with the Safety Data Sheet, paying particular attention to the health and hazard information as well as the emergency and first aid procedures. Also, we urge that you provide instructions and precautions to your employees, agents, contractors, customers and any others who you can reasonably foresee may handle this product. Please review all other data in your files, discarding outdated literature and replacing it with current information.

If you are not directly responsible for the distribution of these sheets and warnings, we ask that you forward them to the appropriate person.

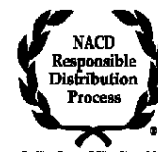
All of us at Houghton Chemical appreciate your business and look forward to a long and continuing relationship. Please call with any questions on this information.

Sincerely,
Bruce E. Houghton,
President

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Date Revised: July 25, 2017

Distributors of Solvents and Chemicals
Manufacturers of Automotive Chemicals
Importers of Raw Materials

Founded in 1927 by Philip A. Houghton



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**HOUGHTON****IMPORTANT EMPTY DRUM HAZARD WARNING**

This is to alert you to a serious safety problem with emptied product drums. You may incur a legal liability as a result of any accident or injury from the misuse of such drums.

As you know, emptied chemical drums can be diverted into other uses such as trash barrels, barbecue grills, staging or flotation aids of one kind or another. This is a dangerous practice, because supposedly "empty" drums may contain residual liquid and or vaporized amounts of the original (or any other) product. Exposure of these empty drums to any source of spark or flame, especially welding torches or a static electric discharge, can cause fire, violent explosion, or the release of toxic vapors. The danger is very real and in the recent past there have been several "empty drum" accidents which have caused severe injuries. In addition, careless handling can expose individuals to hazardous residues unless all the precautions for the container's original contents are observed. Dispose of empty drums by sending to a professional drum reconditioner.

In recognition of this danger, we inform you and anyone who possesses full or "empty" drums to affix a special hazard warning on them next to or on the product label. A suggested text might be:

ATTENTION!

THIS CONTAINER IS DANGEROUS WHEN EMPTIED.

MAY STILL CONTAIN VAPORS OR LIQUIDS THAT ARE FLAMMABLE OR TOXIC OR BOTH.

KEEP CLOSED.

AVOID BREATHING OR TOUCHING CONTENTS.

KEEP ALL HEAT, SPARKS AND FLAMES AWAY.

DO NOT CUT OR WELD ON OR NEAR THIS CONTAINER.

DO NOT REFILL UNTIL CLEANED AND DRIED BY A PROFESSIONAL DRUM RECONDITIONER.

Also, there is available a pre-printed empty drum warning label from "Labelmaster" in Chicago, Illinois. Their telephone number is 1-800-621-5808. Request information related to their empty drum label.

Although we cannot guarantee that such a warning will prevent accidents or release you from liability, we strongly recommend that, in addition to product labels which contain appropriate hazard warning and precautionary information, you begin using an empty drum warning statement on the containers you fill, distribute or use.

We also urge you, and it is your duty, to inform your customers, employees, especially plant personnel, warehousemen, and shippers of the dangers inherent in the handling and misuse of empty containers, and that such containers be reused only after cleaning and processing by an experienced drum reclaimer.

E:\Work\FORMS\Empty Drum Warning Letter.doc

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HCC ID: 510812 – HO1-141114

Houghton Chemical Corporation

Safety Data Sheet



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, sulfur 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.		

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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 goggles 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/m ³ 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.

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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 Communication Standard, 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;	

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		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 10 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						
Properties¹	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°C 60/60°F)	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
Revision Date: November 14, 2014						