

Houghton Chemical Corporation

Safety Data Sheet

PAH|NOL® Universal Antifreeze



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 Ethylene Glycol		
Chemical Family	Ethylene Glycol Mixture		
Recommended Use	Antifreeze Fluid		
Restrictions on Use	Dilution to 50% is generally recommended: dilute to meet local condition.		
Section 2 – Hazard(s) Identification			
Hazard Classification	Acute Toxicity, Oral, Category 4 Skin Corrosion / Irritation, Category 2 Serious Eye Damage / Eye Irritation, Category 2A Sensitization – Skin, Category 1 Toxic to Reproduction, Category 2 Specific Target Organ Toxicity (Single Exposure), Category 1 Specific Target Organ Toxicity (Repeated Exposure), Category 2		
Signal Word	Danger		
Hazard Statement	Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause an allergic skin reaction. Suspected of damaging fertility of the unborn child. Caused damage to the central nervous system (CNS) and kidneys if swallowed. May cause damage to kidneys through prolonged or repeated exposure if swallowed.		
Pictogram Description	Health Hazard, Exclamation Point		
Precautionary Statement	<p>Prevention: Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wash hands and any other contaminated skin after handling. Do not eat, drink or smoke when using this product. Wear eye protection (splash goggles or full face shield), protective gloves and protective clothing (chemically impervious). Do not breathe mist or spray. Contaminated work clothing must not be allowed out of the workplace.</p> <p>Response: If swallowed: Call a poison control center or doctor. Rinse mouth. If on skin: Wash with plenty of water. If skin irritation or rash occurs: Get medical attention. Take off contaminated clothing and wash it before reuse. If in eyes: Rinse eyes cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention. If exposed or concerned: Get medical advice. Get medical attention if you feel unwell.</p> <p>Storage: Store locked up.</p> <p>Disposal: Contact local sewer, municipal, state and/or federal agencies to determine appropriate disposal options for the product. Dispose of this container with a registered reconditioner or as otherwise appropriate.</p>		
Any other Hazard not otherwise classified	Not Applicable		
Section 3 – Composition and Information on Ingredients			
Chemical Name	Common name and synonyms	CAS #	% by weight
Ethylene Glycol	Monoethylene Glycol	107-21-1	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 with symptoms of reddening, itching, swelling, burning, possible permanent damage, nausea, vomiting, weakness, and death
Delayed	Irritation of affected area with symptoms of reddening, itching, swelling, burning, possible permanent damage, nausea, vomiting, weakness, abdominal pain, muscle tenderness, respiratory failure, severe metabolic acidosis, hypocalcemic tetany and death
Inhalation	Vapors and mists cause respiratory irritation and may be harmful if inhaled.
Skin	Irritation may result. May be harmful if absorbed through skin.
Eye Contact	Irritation may cause transitory stinging and tearing.
Ingestion	Toxic: may be harmful or fatal if swallowed.
First Aid Instructions	
Inhalation	Remove to fresh air. Administer oxygen if breathing is difficult. Give artificial respiration if victim is not breathing. Seek medical attention.
Skin	Wash skin with soap and water for at least 20 minutes. Remove any contaminated clothing. Seek medical attention immediately if symptoms or irritation develops.
Eye Contact	Flush with water for at least 20 minutes. Seek medical attention if irritation develops or persists.
Ingestion	DO NOT induce vomiting, seek medical attention immediately. If swallowed give 2 to 3 glasses of water if victim is conscious and alert. Do not give anything by mouth to an unconscious person. To prevent aspiration of swallowed product, lay victim on side with head lower than waist. Vomiting may occur spontaneously. If vomiting occurs and the victim is conscious, give water to victim to further dilute the chemical.
Other	Consult a physician. Show safety data sheet to the doctor in attendance.
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: Carbon Monoxide, Carbon Dioxide.
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 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 well 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	ACGIH TLV: 100 mg/m3				
Other Exposure Limits	OSHA - Table Z-1 Limits for air contaminants - 1910.1000: 50 ppm 125 mg/m3 .				
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, Fluorescent Green				
Upper/lower flammability or explosive limits	Not Explosive; LOWER: 3.2% (v) UPPER: 15.3% (v)				
Odor	Slight to no odor				
Vapor pressure	134 Pa / 0.1 mmHg				
Odor threshold	No data available				
Vapor density (air = 1)	2.14				
pH	7.5 - 11.0				
Relative density	1.120 - 1.140				
Freezing point (as 50%)	-34°F / -37°C				
Solubility(ies)	Miscible in water				
Initial boiling point and boiling range	385°F / 196°C				
Flash point	232°F / 111°C				
Evaporation rate (Butyl Acetate = 1)	<1				
Flammability (solid, gas)	This material is Not Flammable but can burn if heated				
Partition coefficient: n-octanol/water	Log Pow: -1.36				
Auto-ignition temperature	> 700°F / > 370°C				
Decomposition temperature; and	Not Applicable				
Viscosity	~16 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 strong bases and strong acids.				
Conditions to Avoid	Heat, flames, ignition sources and incompatibles.				
Incompatible Materials	Avoid contact with oxidizing agents, strong bases and strong acids.				
Decomposition Products	Carbon dioxide and carbon monoxide may form when heated to decomposition.				
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		Teratogenic effects		
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: LD50 - Rabbits - >10600 mg/kg Ingestion: LD50 - Rats - 7712 mg/kg; Lethal Dose Human Adult - 90mL		
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, nausea, vomiting, abdominal pain, weakness, muscle tenderness, respiratory failure, convulsions, cardiovascular collapse, pulmonary edema, hypocalcemic tetany, metabolic acidosis, death.		
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	UN3082	
UN proper shipping name	Environmentally hazardous substances, liquid, n.o.s.	
Transport hazard class(es)	9	
Packing group number	III	
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	Reportable Quantity (RQ): 5000 lbs Ethylene Glycol	
Section 15 – Regulatory Information (Not indicated anywhere else on this SDS)		
Safety Regulations	OSHA Hazard Communication Standard: This product is 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 - Yes; Delayed (Chronic) Health Hazard - Yes; Fire Hazard - No; Reactive Hazard - No; Sudden Release of Pressure Hazard - No. Section 313: Product contains the following substances which are subject to reporting requirements and are listed in 40 CFR 372 - Component: Ethylene Glycol CAS#: 107-21-1 Amount: >=99.0%.
HMIS	Blue/Health	2
	Red/Flammability	1
	Orange/Physical Hazard	0
	White/Personal Protection	x
NFPA 0(no hazard) to 4(severe risk)	Health (Blue)	2
	Flammability (Red)	1
	Instability/Reactivity (Yellow)	N/A
	Special (White)	0
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%
PAH NOL® Universal Antifreeze		48%				
Performance Additives and Water		52%				
Specific Gravity (15/15°C 60/60°F)		1.060 - 1.090				
Reserve Alkalinity (min)		3				
Freeze Point Max		-34°F / -37°C				

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