



MATERIAL SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company Name Nu-Calgon Wholesaler, Inc.	Phone Number (314) 469-7000 / (800) 554-5499	CHEMTREC (800) 424-9300		
Street Address 2008 Altom Court	City St. Louis	State MO	Postal Code 63146-4151	Last Update 2/8/07
Product Name Ty-Ion C-70	Product Number 7597	Product Use Phosphonate/polymer cooling tower treatment		EPA Registration # N/A

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

<u>Hazardous Ingredients</u>	<u>% By Wt.</u>	<u>CAS Number</u>	<u>TLV</u>	<u>PEL</u>
Ethylene Glycol	5-15	107-21-1	Ceiling: 50 mg/m3 (vapor)	Ceiling: 50 mg/m3
Anionic copolymer, potassium/sodium salt	1-10	No Data.	None established	None established
Aminotri(methylene-phosphonic acid), ATMP*	1-10	6419-19-8	None established	None established
1-Hydroxyethylidene-1,1-diphosphonic acid (HEDP)*	1-10	2809-21-4	None established	None established

SECTION 3 – HAZARD IDENTIFICATION

Emergency Overview: Clear, yellow-amber liquid. WARNING! May cause eye irritation and possibly burns. May cause skin and respiratory tract irritation. May cause an allergic skin reaction. Harmful or fatal if swallowed. Harmful if inhaled or absorbed through the skin. PRIMARY ROUTES OF ENTRY: Eye contact, skin contact, ingestion, and inhalation of product mists TARGET ORGANS: Eye, skin, respiratory system, liver, kidney, and central nervous system

Potential Health Effects

Eyes: Contact with this product may cause eye irritation and possibly eye burns.

Skin: Contact with this product may cause skin irritation. Massive contact with damaged skin or of material sufficiently hot to burn skin may result in the absorption of potentially lethal amounts of the product component, ethylene glycol.

Ingestion: Ingestion may cause irritation of the mucous membranes of the mouth, throat, esophagus, and stomach. Nausea, vomiting, and diarrhea may occur. This product contains ethylene glycol. Ingestion of large volumes of ethylene glycol may result in central nervous system depression and kidney damage. Cardiac failure and pulmonary edema may develop. Early to moderate CNS depression may be evidenced by giddiness, headache, dizziness, and nausea. Kidney damage may be evidenced by changes in urine output, urine appearance, or edema (swelling from fluid retention).

Inhalation: This product is not expected to present an inhalation hazard unless mists or vapors are generated. Significant air concentrations are not achieved unless the product is heated or sprayed as a mist. Exposure to vapors or mists may cause throat irritation, coughing, sneezing, runny nose, headache, nausea, vomiting, dizziness, drowsiness, central nervous system depression, pulmonary edema, involuntary eye movement, and/or coma. Severe exposure may result in damage to lung tissue.

Chronic Exposure: No information is available for this product. Information on components follows. Repeated small exposures to the ethylene glycol by any route can cause severe kidney problems. Brain damage may also occur. Skin allergy can develop. Exposure may damage a developing fetus. Aminotri(methylenephosphonic acid) (ATMP) was fed to rats at 50, 150, or 500 mg/Kg/day for 2 years. Reduced body weights and changes in liver, spleen, and kidney weights or weight ratios were observed in the high-dose group. No adverse histologic, hematologic, biochemical, or urinalysis effects were observed. The no-effect level was considered to be 150 mg/Kg/day. No adverse treatment-related effects on reproduction and no pathologic lesions were observed in either parental animals or pups following dietary administration of ATMP to male and female rats at concentration of 300, 1000, or 3000 ppm throughout pre-mating, mating, gestation, and lactation periods for 3 generations. Some blood effects have been produced by HEDP in chronic feeding studies with rats. A product containing 60% HEDP was administered to beagle dogs at dietary concentrations as high as 10,000 ppm for 90 days with no adverse hematological, biochemical, or histopathological effects. Numerous publications in the scientific literature discuss the effects of HEDP related to bone resorption in tissue and cell culture, and in animals. The effects of HEDP related to bone mineralization, calcium absorption, and metabolism of calcium and phosphate have also been evaluated.

Carcinogenicity: NTP: No ingredients listed in this section IARC: No ingredients listed in this section OSHA: No ingredients listed in this section

Medical Conditions Aggravated by Exposure: Persons with pre-existing eye problems, skin disorders, or impaired liver, kidney, or respiratory function may be more susceptible to the effects of this substance.

SECTION 4 – FIRST AID MEASURES

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eye lids occasionally. Seek medical attention immediately.

Skin: Remove any contaminated clothing. Wash skin thoroughly with plenty of soap and water for at least 15 minutes. Seek medical attention if irritation develops.

Ingestion: Call a physician immediately. Induce vomiting only if directed by medical personnel. Never give anything by mouth to an unconscious person.

Inhalation: If inhalation occurs, remove victim to fresh air. If the breathing stops, give artificial respiration. If breathing is difficult, have a trained medical person administer oxygen. Seek medical aid.

SECTION 5 – FIREFIGHTING MEASURES

Flash Point: None°C/None°F

Autoignition Temp: N/A°C/N/A°F

Hazardous Products of Combustion: No Data.

Flammable Limits in Air: N/A

Extinguishing Media: Use dry chemical, foam, or carbon dioxide. Water or foam may cause frothing. Water spray may be used to extinguish surrounding fire and cool exposed containers. Water spray will also reduce fume and irritant gases.

Fire and Explosion Hazards: Containers may explode when involved in a fire. Toxic gases and vapors may be released in a fire.

Special Firefighting Procedures: Exercise caution when fighting any chemical fire. A self-contained breathing apparatus and protective clothing are essential.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Spill or Leak: STEPS TO BE TAKEN IF MATERIAL IS RELEASED OR SPILLED: Wear appropriate personal protective equipment as specified in Section 8. Ventilate the area of the leak or spill. Isolate the hazard area. Keep unnecessary and unprotected personnel from entering the area. Contain and recover the liquid when possible. Collect the liquid in an appropriate container. Then absorb the residue with an inert material (e.g. vermiculite, dry sand, earth), and place the used absorbent in a chemical waste container. Do not flush to the sewer! Dispose of recovered liquid, if unusable, and used absorbent according to federal, state, and local regulations. US Regulations (CERCLA) require the reporting of spills and releases to soil, water, and air in excess of reportable quantities. (See Section 15, "Regulatory Information".) The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

SECTION 7 – HANDLING AND STORAGE

Handling Procedures and Equipment: Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Use with adequate ventilation. Wash thoroughly after handling. Keep containers closed when not in use.

Storage Requirements: Store in a cool, dry, well-ventilated area away from incompatible materials. Protect against the physical damage of containers. Containers of this material may be hazardous when empty since they retain product residues (vapors, liquid). Observe all warnings and precautions listed for this product.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection: If airborne concentrations exceed published exposure limits, use a NIOSH approved respirator in accordance with OSHA respiratory protection requirements (29 CFR 1910.134).

Eye Protection: Chemical splash goggles

Protective Clothing: Chemical resistant gloves and impervious protective clothing, including boots, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Exposure Guidelines: No Data.

Specific Engineering Controls (such as ventilation, enclosed process): Use local and/or general exhaust ventilation to maintain airborne concentrations below irritating levels or airborne exposure limits, whichever is lower. Local exhaust is generally preferred because it can control the emission of the contaminant at its source, thus preventing dispersion of it into the general work area. Please refer to the ACGIH document, Industrial Ventilation, A Manual of Recommended Practices, the most recent edition, for details. An eye wash station and safety shower should be accessible in the immediate area of use.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Liquid	Freezing Point: No Data.°C/No Data.°F	% Volatile by Weight: No Data.%
Color: Clear, yellow-amber	Vapor Density [air =1]: No Data.	Evaporation Rate: No Data.
Odor: mild odor	Vapor Pressure: No Data.	Specific Gravity: 1.10-1.16 g/mL
Boiling Point: No Data.°C/No Data.°F	Solubility in Water: Complete	pH (concentrate): 11.5-12.3

SECTION 10 – STABILITY AND REACTIVITY

Chemical Stability: Stable

Hazardous Polymerization: Will not occur

Incompatibilities: Avoid contact with strong oxidizing agents, such as nitric acid. Avoid strong acids and strong bases.

Reactive Conditions to avoid: Incompatibles

Decomposition Products: Thermal decomposition or combustion may produce oxides of carbon, potassium, sodium, nitrogen, and sulfur as well as acrid smoke and irritating fumes.

SECTION 11 – TOXICOLOGICAL INFORMATION

<u>Hazardous Ingredients</u>	<u>CAS #</u>	<u>EINECS #</u>	<u>LD 50 of Ingredient</u> (Specify Species)	<u>LC50 of Ingredient</u> (Specify Species)
Ethylene glycol	No Data.	No Data.	Oral (rat) 4,700 mg/Kg Dermal (rabbit) 9,530 uL/Kg	Inhalation (rat) 12,111 mg/L
Anionic copolymer, 28% on an active acid basis	No Data.	No Data.	Oral (rat) >5,000 mg/Kg Dermal (rabbit) >2,000 mg/Kg	
Aminotri(methylene-phosphonic acid), ATMP	No Data.	No Data.	Oral (rat) 2,910 mg/Kg Dermal (rabbit) >6,310 mg/Kg	
1-Hydroxyethylidene-1,1-diphosphonic acid (HEDP)	No Data.	No Data.	Oral (rat) 2,400 mg/Kg (60% solution) Dermal (rabbit) >7,940 mg/Kg (60% solution)	Ethylene glycol has shown teratogenic (reproductive) effects in laboratory animals.

SECTION 12 – ECOLOGICAL INFORMATION

<u>Hazardous Ingredients</u>	<u>Aquatic Toxicity Data</u>
1-Hydroxyethylidene-1,1-diphosphonic acid (HEDP)	48 hr LC50 (Daphnia magna): 51,000 mg/L 24 hr LC50 (Goldfish): > 5,000 mg/L 96 hr LC50 (Bluegill): 27,540 mg/L 96 hr LC50 (Rainbow trout): 41,000 mg/L 96 hr LC50 (Fathead minnow): 49,000 mg/L
Similar anionic copolymer, 39.5% on an active acid basis	48 hr LC50 (Daphnia magna): >1,000 mg/Kg 96 hr LC50 (Bluegill): >1,000 mg/Kg 96 hr LC50 (Trout): >1,000 mg/Kg
Aminotri(methylene-phosphonic acid), ATMP	48 hr LC50 (Daphnia magna): 297 mg/L 96 hr LC50 (Bluegill sunfish): >330 mg/L 96 hr LC50 (Rainbow trout): > 330 mg/L
1-Hydroxyethylidene-1,1-diphosphonic acid (HEDP)	48 hr LC50 (Daphnia magna): 527 mg/L 96 hr LC50 (Bluegill sunfish): 868 mg/L 96 hr LC50 (Rainbow trout): 368 mg/L

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Disposal: RCRA STATUS: Discarded product, as sold, would be not considered a RCRA Hazardous Waste.
DISPOSAL: Dispose of in accordance with local, state, and federal regulations.

SECTION 14 – TRANSPORTATION INFORMATION

Special Shipping Information: No Data.

<u>Purview</u>	<u>Proper Shipping Name</u>	<u>UN Number</u>	<u>Packing Group</u>	<u>Hazard Class</u>
DOT (Land)	No Regulated			
IMO (Water)	No Data.			
ICAO (Air)	No Data.			

SECTION 15 – REGULATORY INFORMATION

WHMIS Classification: (Workplace Hazardous Material Information System)	Class D2B-Materials causing other toxic effects-toxic materials.
SARA Title III: (Superfund Amendments & Reauthorization Act)	Immediate Yes/ Delayed Yes/ Fire No/ Pressure No/ Reactivity No Section 313 Toxic Chemicals (40 CFR 372): Chemical Name CAS Number Percent by Weight Ethylene glycol 107-21-1 14.4
OSHA: (Occupational Safety & Health Administration)	Hazardous
TSCA: (Toxic Substance Control Act)	The ingredients of this product are listed on the Toxic Substances Control Act (TSCA) Chemical Substances Inventory.
VOC: (volatile Organic Compounds)	No Data.
CPR: (Canadian Controlled Products Regulations)	This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations.
EINECS: (European Inventory of Existing Commercial Chemical Substances)	No Data.
DSL / NDSL: (Canadian Domestic Substance List)(Non-Domestic Substance List)	No Data.
CERCLA: (Comprehensive Response Compensation & Liability Act)	Chemical Name CERCLA Reportable Quantity (RQ) Ethylene Glycol 5,000 lb Product: 34,720 lb (Notify the EPA of spills exceeding this amount.)
IDL: (Canadian Ingredient Disclosure List)	No Data.
NFPA (HMIS) Rating: (Hazardous Materials Identification System)	Health = 2 Flammability = 1 Reactivity = 0

SECTION 16 – OTHER INFORMATION

No Data.

The information contained herein is based on the data available to us and is believed to be correct. However, Nu-Calgon Wholesaler Inc. makes no warranty, expressed, or implied, regarding the accuracy of this data or the results to be obtained from the use thereof. Nu-Calgon Wholesaler Inc. assumes no liability for injury from the use of the product described herein.