TED PELLA, INC.
Microscopy Products for Science and Industry

Material Safety Data Sheet
Product No. 18625 Chloramine-T Algicide
Issue Date (10-03-05)
Review Date (06-01-12)

Section 1: Product and Company Identification

Product Name: Chloramine-T Algicide
Synonym: Chloramine T Trihydate, Benzenesulfonamide, Tosylchlora
Company Name
Ted Pella, Inc., P.O. Box 492477, Redding, CA 96049-2477
Domestic Phone (800) 237-3526 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)
International Phone (01) (530) 243-2200 (Mon-Thu. 6:00AM to 4:30PM PST; Fri 6:00AM to 4:00PM PST)
Chemtrec Emergency Number 1-800-424-9300 24 hrs a day.

Section 2: Composition / Information on Ingredients

Principle Hazardous Component(s) (chemical and common name(s)) (Cas. No)	%	OSHA PEL mg/m3	ACGIH TLV mg/m3	NTP	IARC	OSHA regulated
(7080-50-4) Chloramine T trihydrate	100	NE	NE	NE	NE	No

Section 3: Hazard Identification

Emergency overview
Appearance: White to yellow crystalline powder.
Immediate effects: **Danger!** Corrosive. Causes eye and skin burns. May cause sensitization by inhalation. Methemoglobin former - can cause cyanosis. May cause severe respiratory tract irritation with possible burns. May cause severe digestive tract irritation with possible burns. Air sensitive.
Target Organs: Blood, respiratory system, eyes, skin.
Potential health effects
Primary Routes of entry: Inhalation, Skin, Eyes, Ingestion
Signs and Symptoms of Overexposure: ND
Eyes: Causes eye burns. May cause chemical conjunctivitis and corneal damage.
Skin: Causes skin burns. May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color. May cause skin sensitization based on its potential as a respiratory sensitizer.
Ingestion: May cause severe and permanent damage to the digestive tract. Causes gastrointestinal tract burns. May cause perforation of the digestive tract.
Methemoglobinemia is characterized by dizziness, drowsiness, headache, shortness of breath, cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood),

rapid heart rate and chocolate-brown colored blood. Overexposure may cause methemoglobinemia. May cause systemic effects.
Inhalation: Causes chemical burns to the respiratory tract. Aspiration may lead to pulmonary edema. May cause systemic effects. May cause respiratory sensitization.
Chronic Exposure: May cause methemoglobinemia, which is characterized by chocolate-brown colored blood, headache, weakness, dizziness, breath shortness, cyanosis (bluish skin due to deficient oxygenation of blood), rapid heart rate, unconsciousness and possible death. Effects may be delayed.
Chemical Listed As Carcinogen Or Potential Carcinogen:
See Toxicological Information (Section11)
Potential environmental effects
See Ecological Information (Section 12)

Section 4: First Aid Measures
If accidental overexposure is suspected.
Eye(s) Contact: Get medical aid immediately. Do NOT allow victim to rub eyes or keep eyes closed. Extensive irrigation with water is required (at least 30 minutes).
Skin Contact: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.
Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Do NOT use mouth-to-mouth resuscitation. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.
Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
Note to physician
Treatment: Absorption of this product into the body may cause cyanosis (bluish discoloration of skin due to deficient oxygenation of the blood). Moderate degrees of cyanosis need to be treated only by supportive measures: bed rest and oxygen inhalation. For methemoglobinemia, administer oxygen alone or with Methylene Blue depending on the methemoglobin concentration in the blood. Cleansing of the entire contaminated area of the body is of utmost importance.
Antidote: Methylene blue, alone or in combination with oxygen is indicated as a treatment in nitrite induced methemoglobinemia.
Medical Conditions generally Aggravated by Exposure: ND

Section 5: Fire Fighting Measures
Flash Point: 278 deg F (136.67 deg C)
Flammable Limits: ND
Auto-ignition point: ND
Fire Extinguishing Media: Use alcohol foam, carbon dioxide, or water spray when fighting fires involving this material
Special Fire Fighting Procedures: As in any fire, wear a self-contained breathing

apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.
Unusual Fire and Explosion Hazards: ND
Hazardous combustion products: Hydrogen chloride, carbon monoxide, oxides of nitrogen, oxides of sulfur, carbon dioxide, chloride fumes.
DOT Class: Corrosive.

Section 6: Accidental Release Measures
General Information: Use proper personal protective equipment as indicated in Section 8.
Steps to be Taken in Case Material is Released or Spilled: Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Flush spill area with water. Provide ventilation. Place under an inert atmosphere.
Waste Disposal Methods: Dispose of waste according to Federal, State and Local Regulations.

Section 7: Handling and Storage
Precautions to be Taken in Handling and Storage: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use only in a well-ventilated area. Use with adequate ventilation. Avoid contact with skin and eyes. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Keep container tightly closed. Avoid ingestion and inhalation. Do not ingest or inhale. Handle under an inert atmosphere. Store protected from air. Discard contaminated shoes. Keep container closed when not in use. Keep away from water. Keep containers tightly closed. Do not expose to air. Store under an inert atmosphere.
Storage temperature: Store in a cool, dry place.
Storage Pressure: ND

Section 8: Exposure Controls / Personal Protection
Engineering Controls
Ventilation required: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.
Personal Protection Equipment
Respiratory protection: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.
Protective gloves: Wear appropriate protective gloves to prevent skin exposure.
Skin protection: Wear appropriate protective clothing to prevent skin exposure.
Eye protection: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Additional clothing and/or equipment: ND
Exposure Guidelines

See Composition/Information on Ingredients (Section2)

Section 9 Physical and Chemical Properties
Appearance and Physical State: Crystalline powder white to yellow.
Odor (threshold): Chlorine-like - weak odor
Specific Gravity (H_2O=1): 1.43
Vapor Pressure (mm Hg): ND
Vapor Density (air=1): 0.6
Percent Volatile by volume:

Evaporation Rate (butyl acetate=1): ND
Boiling Point: ND
Freezing point / melting point: 167-177 deg C
Decomposition Temperature: ND
pH: 8.0-10.0 (5% aqueous solution).
Solubility in Water: Reacts with water.
Molecular Weight: 281.5975
Molecular Formula: $C_7H_7ClNNaO_2S.3H_2O$

Section 10: Stability and Reactivity
Stability: Stable under normal temperatures and pressures. Air sensitive. Contact with acids liberates toxic gas. Contact with water gives off hypochlorous acid. Has been reported as being explosive after azeotropic distillation (A liquid mixture of two or more substances that retains the same composition in the vapor state as in the liquid state when distilled or partially evaporated under a certain pressure).
Conditions to Avoid: Exposure to air, temperatures above 130°C.
Materials to Avoid (Incompatibility): Oxidizing agents, acids.
Hazardous Decomposition Products: Hydrogen chloride, carbon monoxide, oxides of nitrogen, oxides of sulfur, carbon dioxide, chloride fumes.
Hazardous Polymerization: Will not occur.

Section 11: Toxicological Information
Results of component toxicity test performed: NIF
Human experience: NIF
This product **does not** contain any compounds listed by NTP or IARC or regulated by OSHA as a carcinogen.

Section 12: Ecological Information
Ecological Information: ND
Chemical Fate Information: ND

Section 13 Disposal Considerations
RCRA 40 CFR 261 Classification: Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete

and accurate classification.
RCRA P-Series: None listed.
RCRA U-Series: None listed.
Federal, State and local laws governing disposal of materials can differ. Ensure proper disposal compliance with proper authorities before disposal.

Section 14: Transportation Information
US DOT Information: Proper shipping name: Corrosive Solid, Basic, Organic, N.O.S. (Chloramine T Trihydrate)
Hazard Class: 8
Packaging group: III
UN Number: UN3263
IATA: Proper shipping name: Corrosive Solid, Basic, Organic, N.O.S. (Chloramine T Trihydrate)
Hazard Class: 8
Packing group: III
UN Number: UN3263
IMO: Proper shipping name: Corrosive Solid, Basic, Organic, N.O.S. (Chloramine T Trihydrate)
Class: 8
UN Number: UN3263
Packing group: III
Marine Pollutant: No
Canadian TDG: Proper shipping name: Corrosive Solid, Basic, Organic, N.O.S. (Chloramine T Trihydrate)

Section 15: Regulatory Information
United States Federal Regulations
MSDS complies with OSHA's Hazard Communication Rule 29, CFR 1910.1200.
SARA: Section 302 Extremely Hazardous Substances. None of the chemicals in this product have a TPQ.
Section 313: No chemicals are reportable under Section 313.
Clean Air Act:
This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.
Clean Water Act:
None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.
None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
RCRA: Not listed.
TSCA: CAS# 7080-50-4 is not on the TSCA Inventory because it is a hydrate. It is considered to be listed if the CAS number for the anhydrous form is on the inventory (40CFR720.3(u)(2)). None of the chemicals are listed under TSCA Section 12b. None

of the chemicals in this material have a SNUR (Significant New Use Rule**)** under TSCA
None of the chemicals in this product are under a Chemical Test Rule.
CERCLA: None of the chemicals in this material have an RQ.

State Regulations

CAS# 7080-50-4 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
California Proposition 65: California No Significant Risk Level: None of the chemicals in this product are listed.

International Regulations

Canada WHMIS: This product has a WHMIS classification of D2B.
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.
Canada - DSL/NDSL: None of the chemicals in this product are listed on the DSL or NDSL list.
Europe EINECS /ELINCS Numbers: Unlisted.

Section 16: Other Information

Label Information:
European Risk and Safety Phrases: Risk Phrases: R 22 Harmful if swallowed. R 31 Contact with acids liberates toxic gas.
R 34 Causes burns. R 42 May cause sensitization by inhalation.
Safety Phrases: S 22 Do not breathe dust. S 26 In case of contact with eyes, rinse immediately with plenty of
water and seek medical advice. S 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S 7 Keep container tightly closed.
European symbols needed: Hazard symbols: C
Canadian WHMIS Symbols: NIF
NFPA Hazard Rating (Estimated): Health: **3**; Flammability: **1**; Instability: **0**.
(0=least, 1=Slight, 2=Moderate, 3=High, 4=Extreme)

Abbreviations used in this document

NE= Not established
NA= Not applicable
NIF= No Information Found
ND= No Data

Disclaimer

Ted Pella, Inc. makes no warranty of any kind regarding the information furnished herein. Users should independently determine the suitability and completeness of information from all sources. While this data is presented in good faith and believed to be accurate, it should be considered only as a supplement to other information gathered by the user. It is the User's responsibility to assure the proper use and disposal of these

materials as well as the safety and health of all personnel who may work with or otherwise come in contact with these materials.