

MATERIAL SAFETY DATA SHEET

SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: Chloramine T (Tosylchloramide trihydrate Sodium) or (N-Chloro-p-toluenesulfonamide trihydrate sodium salt or N-sodium-N-chloro-p-toluene sulfonamide trihydrate sodium salt or sodium p-toluenesulphonechloramide trihydrate.

GENERAL USE: In hydrotherapy, and cleaner applications.

PRODUCT DESCRIPTION: White crystalline powder/solid. Chlorine-like - weak odor.



Manufacturers Name: H&S Chemical Co. Inc.	DATE PREPARED: 01/14/2008 SUPERSEDES: 05/18/2007	Page 1 of 4
ADDRESS (NUMBER, STREET, P.O. BOX) 1025 Mary Laidley Drive	TELEPHONE NUMBER FOR INFORMATION / customer service 1-859-356-8000	
(CITY, STATE AND ZIP CODE) COUNTRY Covington, KY 41017 USA	CHEMTEL 24-HOUR EMERGENCY TELEPHONE NUMBER North America: 1-800-255-3924 International: +01-813-248-0585	
DISTRIBUTOR'S NAME Not Applicable		
ADDRESS (NUMBER, STREET, P.O. BOX)	TELEPHONE NUMBER FOR INFORMATION / customer service	
(CITY, STATE AND ZIP CODE) COUNTRY	DISTRIBUTOR EMERGENCY TELEPHONE NUMBER	

SECTION 2 - HAZARDOUS INGREDIENTS

Hazardous Components	% (by Weight)	CAS #	EINECS #	Hazard Symbol	RISK PHRASES (Full Text Section 15)
*Chloramine T Trihydrate or Tosylchloramide Trihydrate Sodium, or N-Chloro-p-toluenesulfonamide trihydrate sodium salt, or N-sodium-N-chloro-p-toluene sulfonamide trihydrate sodium salt, or sodium p-toluenesulphonechloramide trihydrate.	100%	7080-50-4	#N/R		
Anhydrous Chloramine T and Anhydrous synonyms.		127-65-1	204-854-7	+C: Corrosive +Xn: Harmful	R-22 R-34 R-31 R-42

Notes: *This product is made with the Trihydrate form of Chloramine T which is not TSCA listed since hydrates are exempted from TSCA listing. Since the trihydrate form of this chemical is also #not referenced but the anhydrous form is referenced, the appropriate E.U. risk phrases and hazard symbols are for the anhydrous form which is expected to exhibit very similar hazards to the trihydrate form.

SECTION 3 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW
May cause methemoglobinemia, which is characterized by chocolate-brown colored blood, headache, weakness, dizziness, breath shortness, cyanosis, rapid heart rate, unconsciousness and possible death. Effects may be delayed.

POTENTIAL HEALTH EFFECTS

INHALATION:
Causes chemical burns to the respiratory tract. Aspiration may lead to pulmonary edema. May cause systemic effects.

SKIN:
Causes skin burns. May cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material. May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color.

EYES:
Causes eye burns. May cause chemical conjunctivitis and corneal damage.

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PERSONAL PROTECTION			
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 a respirator's use.			
PROTECTIVE GLOVES: Wear appropriate protective gloves 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.			
OTHER PROTECTIVE CLOTHING OR EQUIPMENT: Clothing: Wear appropriate protective clothing to prevent skin exposure. An apron is recommended.			
WORK / HYGIENIC PRACTICES: 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. Discard contaminated shoes.			
SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES			
APPEARANCE AND ODOR White to yellow solid. Chlorine-like - weak odor.		VAPOR PRESSURE NA	
pH 7-9 (1gram /400g water)		SPECIFIC GRAVITY (WATER = 1) 1.43 g/cm3 (20 C)	
BOILING POINT / BOILING RANGE NA		SOLUBILITY IN WATER 150 g/L (25 C)	
FLASH POINT 192° C		VISCOSITY NA	
FLAMMABLE LIMITS LEL: Unknown UEL: NA		VAPOR DENSITY (AIR = 1) NA	
AUTOIGNITION TEMPERATURE Unknown		EVAPORATION RATE (WATER = 1) NA	
SECTION 10 - STABILITY AND REACTIVITY			
STABILITY Stable X		CONDITIONS TO AVOID: Contact with strong oxidizing agents, acids, ammonia	
INCOMPATIBILITY (MATERIALS TO AVOID): Strong oxidizing agents, acids ammonia.			
HAZARDOUS DECOMPOSITION OR BYPRODUCTS: Sulfur dioxide, carbon monoxide, oxides of nitrogen, carbon dioxide, chlorine fumes.			
HAZARDOUS POLYMERIZATION Will not occur.		CONDITIONS TO AVOID: Contact with strong oxidizing agents, acids, ammonia	
SECTION 11 - TOXICOLOGICAL INFORMATION			
Hazardous Components	CAS # EINECS #	LD50 of Ingredient (Specify Species and Route)	LC50 of Ingredient (Specify Species)
Chloramine T or Tosylchloramide Sodium or N-Chloro-p-toluenesulfonamide sodium salt or N-sodium-N- chloro-p-toluene sulfonamide trihydrate sodium salt or sodium p-toluenesulphonechloramide.	127-65-1 204-854-7	NA	NA
SECTION 12 - ECOLOGICAL INFORMATION			
Do not allow product to reach ground water, watercourse or sewage system. Danger to drinking water if even small quantities leak into ground water. Do not allow material to be released to the environment with out proper governmental permits. Environmental fate: Unknown			
SECTION 13 - DISPOSAL CONSIDERATIONS			
WASTE DISPOSAL METHOD: Ensure that collection, transport, treatment, and disposal of waste product, containers and rinsate complies with all applicable laws and regulations. It is the responsibility of the product user or owner to determine at the time of disposal, whether the product is regulated as a hazardous waste.			

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SECTION 14 - TRANSPORT INFORMATION

PROPER SHIPPING NAME: Corrosive Solid, Basic, Organic N.O.S. (Sodium p-Toluenesulfonchloramide)
 DOT HAZARD CLASS / Pack Group: 8, PGIII
 REFERENCE: 49 CFR
 UN / NA IDENTIFICATION NUMBER: UN 3263
 LABEL: Corrosive Solid
 HAZARD SYMBOLS:

IATA HAZARD CLASS / Pack Group: 8, PGIII
 IMDG HAZARD CLASS: 8
 RID/ADR Dangerous Goods Code: NA
 UN TDG Class / Pack Group: UN 3263, 8, PGIII





Note: Transportation information provided is for reference only. Client is urged to consult CFR 49 parts 100 - 177, IMDG, IATA, EU, United Nations TDG, and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

SECTION 15 - REGULATORY INFORMATION

TSCA (USA - Toxic Substance Control Act): Listed
 SARA TITLE III (USA - Superfund Amendments and Reauthorization Act) No reporting requirement.
313 REPORTABLE INGREDIENTS: None
 CERCLA (USA - Comprehensive Response Compensation and Liability Act): No RQ Listed
 California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986: Not listed
 CPR (Canadian Controlled Products Regulations); Not listed
 IDL (Canadian Ingredient Disclosure List): Not listed
 DSL / NDSL (Canadian Domestic Substances List / Non-Domestic Substances List): Not listed
 EINECS (European Inventory of Existing Commercial Chemical Substances); Listed

WGK Water Quality Index: Unknown

RISK PHRASES:	SYMBOL(S) REQUIRED FOR EU LABEL	SAFETY PHRASES:
<p>+R22: Harmful if swallowed.</p> <p>+R31: Contact with acids liberates toxic gas.</p> <p>+R34: Causes Burns</p> <p>+R42: May cause sensitization by inhalation.</p> <p>#See notes Section 2</p>	<p></p> <p>+C: Corrosive</p> <p></p> <p>+X_n: Harmful</p> <p>#See notes Section 2</p>	<p>S1/2: Keep locked up and out of the reach of children.</p> <p>S7: Keep container tightly closed.</p> <p>S22: Do not breathe dust.</p> <p>S36/37/39: Wear suitable protective clothing, gloves and eye/face protection</p> <p>S45: In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).</p> <p># See Notes Section 2</p>

SECTION 16 - OTHER INFORMATION

HMIS HAZARD RATINGS	HEALTH:	2	0 = INSIGNIFICANT
	FLAMMABILITY:	0	1 = SLIGHT
	REACTIVITY:	1	2 = MODERATE
	PERSONAL PROTECTIVE EQUIPMENT:	F	3 = HIGH
			4 = EXTREME

REVISION SUMMARY:

Revision 01/14/2008 includes E.U. hazards information and supersedes previous 05/18/2007 issue.

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The information contained herein is believed to be accurate but is not warranted to be so. Data and calculations are based on information furnished by the manufacturer of the product and manufacturers of the components of the product. Users are advised to confirm in advance of need that information is current, applicable and suited to the circumstances of use. Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Furthermore, vendor assumes no responsibility for injury caused by abnormal use of this material even if reasonable safety procedures are followed. Any questions regarding this product should be directed to the manufacturer of the product as described in Section 1.