



# MATERIAL SAFETY DATA SHEET

according to the Hazard Communication Standard (29 CFR 1910.1200)

Revision Date 10/19/2012

Version 1.3

## SECTION 1. Identification

### Product identifier

Product number 818705  
Product name Chloramine T trihydrate for synthesis

### Relevant identified uses of the substance or mixture and uses advised against

Identified uses Chemical for synthesis

### Details of the supplier of the safety data sheet

Company EMD Millipore Corporation | 290 Concord Road, Billerica, MA 01821,  
United States of America | SDS Phone Support: +1-978-715-1335 |  
General Inquiries: +1-978-715-4321 | Monday to Friday, 9:00 AM to  
4:00 PM Eastern Time (GMT-5)  
  
e-mail: mm\_sds@merckgroup.com

Emergency telephone 800-424-9300 CHEMTREC (USA)  
+1-703-527-3887 CHEMTREC (International)  
24 Hours/day; 7 Days/week

## SECTION 2. Hazards identification

### GHS Classification

Acute toxicity, Category 4, Oral, H302  
Acute toxicity, Category 2, Inhalation, H330  
Skin corrosion, Category 1B, H314  
Respiratory sensitization, Category 1, H334

For the full text of the H-Statements mentioned in this Section, see Section 16.

### GHS-Labeling

*Hazard pictograms*



*Signal Word*  
Danger

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## *Hazard Statements*

H302 Harmful if swallowed.

H314 Causes severe skin burns and eye damage.

H330 Fatal if inhaled.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

## *Precautionary Statements*

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

P301 + P330 + P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P309 + P310 IF exposed or if you feel unwell: Immediately call a POISON CENTER or doctor/physician.

## **OSHA Hazards**

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

## **Other hazards**

None known.

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## **SECTION 3. Composition/information on ingredients**

Formula	$\text{CH}_3\text{C}_6\text{H}_4\text{SO}_2\text{NCINa} \cdot 3 \text{H}_2\text{O}$	$\text{C}_7\text{H}_7\text{ClNaNO}_2\text{S} \cdot 3 \text{H}_2\text{O}$ (Hill)
CAS-No.	7080-50-4	
Molar mass	281.69 g/mol	

## **Hazardous ingredients**

*Chemical Name ( Concentration)*

CAS-No.

*Chloramine T ( >= 70 % - < 90 % )*

127-65-1

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## **SECTION 4. First aid measures**

### **Description of first-aid measures**

*General advice*

First aider needs to protect himself.

*Inhalation*

After inhalation: fresh air. If breathing stops: immediately apply artificial respiration, if necessary oxygen. Immediately call in physician.

*Skin contact*

After skin contact: wash off with plenty of water. Immediately remove contaminated clothing. If available swab with polyethylene glycol 400. Call a physician immediately.

*Eye contact*

After eye contact: rinse out with plenty of water. Immediately call in ophthalmologist.

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### *Ingestion*

After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation!). Call a physician immediately. Do not attempt to neutralize.

Never give anything by mouth to an unconscious person.

### **Most important symptoms and effects, both acute and delayed**

Irritation and corrosion, Cough, Shortness of breath  
Risk of blindness!

### **Indication of any immediate medical attention and special treatment needed**

No information available.

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## **SECTION 5. Fire-fighting measures**

### **Extinguishing media**

#### *Suitable extinguishing media*

Water, Carbon dioxide (CO<sub>2</sub>), Foam, Dry powder

#### *Unsuitable extinguishing media*

For this substance/mixture no limitations of extinguishing agents are given.

### **Special hazards arising from the substance or mixture**

Combustible.

In the event of decomposition: danger of explosion!

Forms explosive mixtures with air on intense heating.

Development of hazardous combustion gases or vapors possible in the event of fire.

Fire may cause evolution of:

Sulfur oxides, Hydrogen chloride gas, nitrogen oxides

### **Advice for firefighters**

#### *Special protective equipment for fire-fighters*

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

#### *Further information*

Cool closed containers exposed to fire with water spray. Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

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## **SECTION 6. Accidental release measures**

### **Personal precautions, protective equipment and emergency procedures**

Advice for non-emergency personnel: Avoid inhalation of dusts. Avoid substance contact.

Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert.

Advice for emergency responders: Protective equipment see section 8.

### **Environmental precautions**

Do not empty into drains.

### **Methods and materials for containment and cleaning up**

Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7 and 10).

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Take up dry. Dispose of properly. Clean up affected area. Avoid generation of dusts.

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**SECTION 7. Handling and storage**

**Precautions for safe handling**

Work under hood. Do not inhale substance/mixture.

Observe label precautions.

**Conditions for safe storage, including any incompatibilities**

Tightly closed. Dry.

Keep in a well-ventilated place. Keep locked up or in an area accessible only to qualified or authorized persons.

Store at +15°C to +25°C (+59°F to +77°F).

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**SECTION 8. Exposure controls/personal protection**

**Exposure limit(s)**

Contains no substances with occupational exposure limit values.

**Engineering measures**

Technical measures and appropriate working operations should be given priority over the use of personal protective equipment.

**Individual protection measures**

Protective clothing should be selected specifically for the workplace, depending on concentration and quantity of the hazardous substances handled. The chemical resistance of the protective equipment should be inquired at the respective supplier.

*Hygiene measures*

Immediately change contaminated clothing. Apply skin- protective barrier cream. Wash hands and face after working with substance.

*Eye/face protection*

Tightly fitting safety goggles

*Hand protection*

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Recommended:

full contact:

Glove material:	Nitrile rubber
Glove thickness:	0.11 mm
Break through time:	> 480 min

splash contact:

Glove material:	Nitrile rubber
Glove thickness:	0.11 mm
Break through time:	> 480 min

*Other protective equipment:*

protective clothing

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*Respiratory protection*

required when dusts are generated.

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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**SECTION 9. Physical and chemical properties**

Physical state	solid
Color	light yellow
Odor	slight chlorine
Odor Threshold	No information available.
pH	8 - 10 at 50 g/l 68 °F ( 20 °C)
Melting point	decomposes
Boiling point/boiling range	not applicable
Flash point	378 °F ( 192 °C) Method: c.c.
Evaporation rate	No information available.
Flammability (solid, gas)	No information available.
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Vapor pressure	No information available.
Relative vapor density	No information available.
Relative density	No information available.
Water solubility	150 g/l at 77 °F ( 25 °C)
Partition coefficient: n-octanol/water	log Pow: 0.84 (calculated) (anhydrous substance) Bioaccumulation is not expected (log Pow <1). (Lit.)
Autoignition temperature	No information available.

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Decomposition temperature	> 140 °F ( > 60 °C)
Viscosity, dynamic	No information available.
Bulk density	540 - 680 kg/m <sup>3</sup>

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## SECTION 10. Stability and reactivity

### Reactivity

The following applies in general to flammable organic substances and mixtures: in correspondingly fine distribution, when whirled up a dust explosion potential may generally be assumed.

### Chemical stability

Sensitive to air.

### Possibility of hazardous reactions

A risk of explosion and/or of toxic gas formation exists with the following substances:

acids

Violent reactions possible with:

Strong oxidizing agents

### Conditions to avoid

Heating (explosive decomposition).

### Incompatible materials

no information available

### Hazardous decomposition products

in the event of fire: See section 5.

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## SECTION 11. Toxicological information

### Information on toxicological effects

#### *Likely route of exposure*

Eye contact, Skin contact, Ingestion

#### *Target Organs*

Eyes

Respiratory system

Skin

#### *Acute oral toxicity*

LD50 rat: 935 mg/kg (IUCLID)

Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

absorption

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## *Acute inhalation toxicity*

LC50 rat: > 0.275 mg/l; 4 h (IUCLID)

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages:, damage of respiratory tract

absorption

## *Skin irritation*

rabbit

Result: Causes burns.

(IUCLID)

Causes burns.

## *Eye irritation*

Causes serious eye damage. Risk of blindness!

## *Sensitization*

Human experience

Result: positive

(HSDB)

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

## *Genotoxicity in vivo*

Mutagenicity (mammal cell test): micronucleus.

Result: negative

(IUCLID)

## *Genotoxicity in vitro*

Ames test

Result: negative

(IUCLID)

## *Specific target organ systemic toxicity - single exposure*

The substance or mixture is not classified as specific target organ toxicant, single exposure.

## *Specific target organ systemic toxicity - repeated exposure*

The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

## *Aspiration hazard*

Regarding the available data the classification criteria are not fulfilled.

## **Carcinogenicity**

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

ACGIH

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential

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carcinogen by ACGIH.

**Further information**

Handle in accordance with good industrial hygiene and safety practice.

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**SECTION 12. Ecological information**

**Ecotoxicity**

*Toxicity to fish*

LC50 *Poecilia reticulata* (guppy): 31 mg/l; 96 h

OECD Test Guideline 203

*Toxicity to daphnia and other aquatic invertebrates*

EC50 *Daphnia magna* (Water flea): 4.5 mg/l; 48 h (IUCLID)

NOEC *Daphnia magna* (Water flea): 1.1 mg/l; 21 d

OECD Test Guideline 202

*Toxicity to algae*

IC50 *Desmodesmus subspicatus* (green algae): 0.31 mg/l; 48 h (ECOTOX Database)

**Persistence and degradability**

*Biodegradability*

90 %; 28 d

OECD Test Guideline 301A

Readily biodegradable.

**Bioaccumulative potential**

*Partition coefficient: n-octanol/water*

log Pow: 0.84

(calculated)

(anhydrous substance) Bioaccumulation is not expected (log Pow <1). (Lit.)

**Mobility in soil**

No information available.

**Other adverse effects**

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**SECTION 13. Disposal considerations**

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.



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**SECTION 14. Transport information**

**Land transport (DOT)**

**UN number** UN 3263  
**Proper shipping name** CORROSIVE SOLID, BASIC, ORGANIC, N.O.S. ( N-CHLORO-4-TOLUENESULFONAMIDE SODIUM SALT)  
**Class** 8  
**Packing group** III  
**Environmentally hazardous** --

**Air transport (IATA)**

**UN number** UN 3263  
**Proper shipping name** CORROSIVE SOLID, BASIC, ORGANIC, N.O.S. ( N-CHLORO-4-TOLUENESULFONAMIDE SODIUM SALT)  
**Class** 8  
**Packing group** III  
**Environmentally hazardous** --  
**Special precautions for user** no

**Sea transport (IMDG)**

**UN number** UN 3263  
**Proper shipping name** CORROSIVE SOLID, BASIC, ORGANIC, N.O.S. ( N-CHLORO-4-TOLUENESULFONAMIDE SODIUM SALT)  
**Class** 8  
**Packing group** III  
**Environmentally hazardous** --  
**Special precautions for user** yes  
**EmS** F-A S-B

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**SECTION 15. Regulatory information**

**United States of America**

**OSHA Hazards**

Highly toxic by inhalation  
Harmful if swallowed.  
Corrosive to skin  
Respiratory sensitizer  
Corrosive to eyes  
Corrosive by inhalation.

This information is based on 29 CFR 1910.1200 criteria prior to adoption of the GHS, and may deviate from the GHS information on the label and in section 2.

**TSCA list**

Not relevant

**SARA 311/312 Hazards**

Acute Health Hazard

**Clean Water Act**

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

**Massachusetts Right To Know**

Remarks

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know**

*Ingredients*

Chloramine T  
water of crystallization

**New Jersey Right To Know**

*Ingredients*

Chloramine T  
water of crystallization

**California Prop 65 Components**

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

**Notification status**

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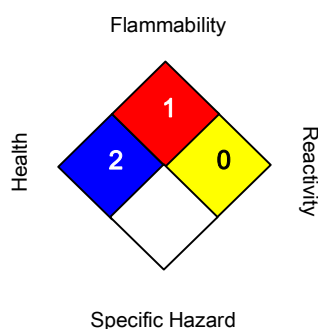
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TSCA: On TSCA Inventory  
DSL: All components of this product are on the Canadian DSL.

SECTION 16. Other information

National Fire Protection Association (U.S.A)



Training advice

Provide adequate information, instruction and training for operators.

Full text of H-Statements referred to under sections 2 and 3.

H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
H330 Fatal if inhaled.  
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Key or legend to abbreviations and acronyms used in the safety data sheet

Used abbreviations and acronyms can be looked up at [www.wikipedia.org](http://www.wikipedia.org).

The information contained herein is based on the present state of our knowledge. It characterizes the product with regard to appropriate safety precautions. It does not represent a warranty of any product properties and we assume no liability for any loss or injury which may result from the use of this information. Users should conduct their own investigations to determine the suitability of the information.

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