Material Safety Data Sheet
Chloramine T trihydrate MSDS

Section 1: Chemical Product and Company Identification

<table>
<thead>
<tr>
<th>Product Name:</th>
<th>Chloramine T trihydrate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Catalog Codes:</td>
<td>20467</td>
</tr>
<tr>
<td>CAS#:</td>
<td>7080-50-4</td>
</tr>
<tr>
<td>RTECS:</td>
<td>Unlisted</td>
</tr>
<tr>
<td>TSCA:</td>
<td>Not available</td>
</tr>
<tr>
<td>Synonym:</td>
<td>N-Chloro-p-toluenesulfonamide, sodium salt; Tosylchloramide sodium.</td>
</tr>
<tr>
<td>Chemical Formula:</td>
<td>C7H7ClNNaO2S.3H2O</td>
</tr>
<tr>
<td>Contact Information:</td>
<td>Finar Limited</td>
</tr>
<tr>
<td></td>
<td>184-186/P, Chacharwadi Vasna, Sarkhej-Bavla Highway, Ta.: Sanand, Dist.: Ahmedabad, Email: <a href="mailto:info@finarchemicals.com">info@finarchemicals.com</a></td>
</tr>
<tr>
<td></td>
<td>Web: <a href="http://www.finarchemicals.com">www.finarchemicals.com</a></td>
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</tbody>
</table>

Section 2: Composition and Information on Ingredients

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS #</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloramine T trihydrate</td>
<td>7080-50-4</td>
<td>100%</td>
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</tbody>
</table>

Section 3: Hazards Identification

EMERGENCY OVERVIEW
Appearance: white to off-white crystalline powder.

Danger! Causes burns by all exposure routes. Harmful if swallowed. May cause allergic respiratory reaction. Contact with acids liberates toxic gas.

Target Organs: Central nervous system, respiratory system, gastrointestinal system, eyes, skin.

Potential Health Effects
Eye: Causes eye burns.
Skin: Causes skin burns. May be harmful if absorbed through the skin. NIOSHTIC 1997: A case of occupational allergic contact urticaria from chloramine-T solution in a 48 yr old hospital bath attendant was described. The authors conclude that she suffers from occupational allergic contact urticaria caused by chloramine-T. Merck MSDS issued in May 2004 says rabbit skin tests resulted in burns.
Ingestion: Harmful if swallowed. Causes gastrointestinal tract burns.
Inhalation: May cause allergic respiratory reaction. Causes chemical burns to the respiratory tract. May be harmful if inhaled.
Chronic: Laboratory experiments have resulted in mutagenic effects. Repeated or prolonged exposure may cause allergic reactions in sensitive individuals. Exposure to high concentrations may cause central nervous system depression.

Section 4: First Aid Measures

Eyes:
Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin:
Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing...
contaminated clothing and shoes.

**Ingestion:**
Do not induce vomiting. Get medical aid immediately. Call a poison control center.

**Inhalation:**
Get medical aid immediately. Remove from exposure and move to fresh air immediately. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device.

**Notes to Physician:** Treat symptomatically and supportively.

### Section 5: Fire and Explosion Data

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

**Extinguishing Media:** Use water spray, dry chemical, carbon dioxide, or chemical foam.

**Flash Point:** 192 deg C (377.60 deg F)

**Autoignition Temperature:** Not available.

**Explosion Limits, Lower:** Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 3; Flammability: 1; Instability: 1

### Section 6: Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Wear a self contained breathing apparatus and appropriate personal protection. (See Exposure Controls, Personal Protection section). Provide ventilation. Do not let this chemical enter the environment.

### Section 7: Handling and Storage

**Handling:**
Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Use only in a chemical fume hood. Acids should not be used around this material unless absolutely necessary and then only after careful planning. Contact with acids liberates toxic gas.

**Storage:**
Store in a cool, dry place. Store in a tightly closed container. Corrosives area. Keep away from acids.

### Section 8: Exposure Controls/Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use only under a chemical fume hood.

**Exposure Limits**

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>NIOSH</th>
<th>OSHA - Final PELs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chloramine-T trihydrate</td>
<td>none listed</td>
<td>none listed</td>
<td>none listed</td>
</tr>
</tbody>
</table>

**OSHA Vacated PELs:** Chloramine-T trihydrate: No OSHA Vacated PELs are listed for this chemical. **Personal Protective Equipment**

**Eyes:** 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.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** 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.

### Section 9: Physical and Chemical Properties

**Physical State:** Crystalline powder

**Appearance:** white to off-white

**Odor:** chlorine-like

**pH:** 8 - 10 (5% aq.sol.)
Vapor Pressure: Not available.
Vapor Density: Not available.
Evaporation Rate: Not available.
Viscosity: Not available.
Boiling Point: Not available.
Freezing/Melting Point: 170 - 177 deg C (decom)
Decomposition Temperature: Not available.
Solubility: Soluble.
Specific Gravity/Density: Not available.
Molecular Formula: C7H7ClNNaO2S·3H2O
Molecular Weight: 281.69

Section 10: Stability and Reactivity Data

Chemical Stability: Contact with acid liberates gas. Air sensitive.
Conditions to Avoid: Incompatible materials, exposure to air, excess heat, temperatures above 130°C.
Incompatibilities with Other Materials: Strong oxidizing agents, acids.
Hazardous Polymerization: Will not occur

Section 11: Toxicological Information

RTECS#: CAS# 7080-50-4 unlisted.
CAS# 127-65-1: XT5616800
LD50/LC50: Not available. Not available.
Carcinogenicity:
CAS# 7080-50-4: Not listed by ACGIH, IARC, NTP, or CA Prop 65.
CAS# 127-65-1: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

epidemiology: No information found
Teratogenicity: No information found
Reproductive Effects: No information found
Mutagenicity: Mutagenic effects have occurred in experimental animals.
Neurotoxicity: No information found
Other Studies:

Section 12: Ecological Information

Ecotoxicity: No data available. No information available.
Environmental: No information available.
Physical: No information available.
Other: Do not empty into drains.

Section 13: Disposal Considerations

Dispose of in a manner consistent with federal, state, and local regulations.

Section 14: Transport Information

<table>
<thead>
<tr>
<th></th>
<th>US DOT</th>
<th>Canada TDG</th>
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<tr>
<td>Shipping Name:</td>
<td>CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.</td>
<td>CORROSIVE SOLID, BASIC, ORGANIC, N.O.S.</td>
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<tr>
<td>Hazard Class:</td>
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<td>8</td>
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<tr>
<td>UN Number:</td>
<td>UN3263</td>
<td>UN3263</td>
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<tr>
<td>Packing Group:</td>
<td>III</td>
<td>III</td>
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</table>
Section 15: Other Regulatory Information

US FEDERAL

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)).
CAS# 127-65-1 is listed on the TSCA inventory.

Health & Safety Reporting List
None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules
None of the chemicals in this product are under a Chemical Test Rule.

Section 12b
None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule
None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs
None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances
None of the chemicals in this product have a TPQ.

SARA Codes
CAS # 127-65-1: immediate, reactive.

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.

OSHA:
None of the chemicals in this product are considered highly hazardous by OSHA.

STATE
CAS# 7080-50-4 is not present on state lists from CA, PA, MN, MA, FL, or NJ.
CAS# 127-65-1 is not present on state lists from CA, PA, MN, MA, FL, or NJ.

California Prop 65
California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:
C

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.
<table>
<thead>
<tr>
<th>Section 16: Other Information</th>
</tr>
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<tbody>
<tr>
<td>References: Not available.</td>
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<tr>
<td>Other Special Considerations: Not available.</td>
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<tr>
<td>Created: 10/06/2010</td>
</tr>
<tr>
<td>Last Updated: 24/11/2012</td>
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