Material Safety Data Sheet
Tetrazolium salt MSDS

Section 1: Chemical Product and Company Identification

Product Name: Tetrazolium salt
Catalog Codes: 21828
CAS#: 298-96-4
RETECS: Not available.
TSCA: TSCA 8(b) inventory: Tetrazolium salt
CI#: Not available.
Synonym: 2,3,5,-Triphenyl-2H-Tetrazolium Chloride;
Tetrazolium Red; TTC; Vitastain; Tetrazolium chloride; TPTZ

Chemical Name: 2H-Tetrazolium, 2,3,5-triphenyl-, chloride
Chemical Formula: C19-H15-Cl-N4

Contact Information:
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Section 2: Composition and Information on Ingredients

Composition:

<table>
<thead>
<tr>
<th>Name</th>
<th>CAS #</th>
<th>% by Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tetrazolium salt</td>
<td>298-96-4</td>
<td>100</td>
</tr>
</tbody>
</table>

Toxicological Data on Ingredients: Triphenyltetrazolium chloride LD50: Not available. LC50: Not available.

Section 3: Hazards Identification

Potential Acute Health Effects: Hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.
Potential Chronic Health Effects:
CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available. The substance is toxic to mucous membranes. Repeated or prolonged exposure to the substance can produce target organs damage.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Cold water may be used. Get medical attention.
Skin Contact:
In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation:
If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

Serious Inhalation: Not available.

Ingestion:
Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not available.

Flash Points: Not available.

Flammable Limits: Not available.

Products of Combustion: These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...), halogenated compounds.

Fire Hazards in Presence of Various Substances:
Slightly flammable to flammable in presence of heat. Non-flammable in presence of shocks.

Explosion Hazards in Presence of Various Substances:
Slightly explosive in presence of open flames and sparks. Non-explosive in presence of shocks.

Fire Fighting Media and Instructions:
SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: As with most organic solids, fire is possible at elevated temperatures

Special Remarks on Explosion Hazards:
Fine dust dispersed in air in sufficient concentrations, and in the presences of an ignition source is a potential dust explosion hazard.

Section 6: Accidental Release Measures

Small Spill:
Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:
Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Section 7: Handling and Storage
Precautions:
Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not breathe dust. Wear suitable protective clothing. In case of insufficient ventilation, wear suitable respiratory equipment. If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents.

Storage: Keep container tightly closed. Keep container in a cool, well-ventilated area.

<table>
<thead>
<tr>
<th>Section 8: Exposure Controls/Personal Protection</th>
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<tbody>
<tr>
<td><strong>Engineering Controls:</strong> Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.</td>
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<tr>
<td><strong>Personal Protection:</strong> Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.</td>
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<tr>
<td><strong>Personal Protection in Case of a Large Spill:</strong> Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.</td>
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<tr>
<td><strong>Exposure Limits:</strong> Not available.</td>
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<tr>
<th>Section 9: Physical and Chemical Properties</th>
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<td><strong>Physical state and appearance:</strong> Solid.</td>
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<td><strong>Odor:</strong> Odorless.</td>
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<td><strong>Taste:</strong> Not available.</td>
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<tr>
<td><strong>Molecular Weight:</strong> 334.8 g/mole</td>
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<td><strong>Color:</strong> White to yellowish.</td>
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<td><strong>pH (1% soln/water):</strong> Not available.</td>
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<td><strong>Boiling Point:</strong> Not available.</td>
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<td><strong>Melting Point:</strong> Decomposition temperature: 245°C (473°F)</td>
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<td><strong>Critical Temperature:</strong> Not available.</td>
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<td><strong>Specific Gravity:</strong> Not available.</td>
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<td><strong>Vapor Pressure:</strong> Not applicable.</td>
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<td><strong>Vapor Density:</strong> 11.5 (Air = 1)</td>
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<td><strong>Vatility:</strong> Not available.</td>
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<td><strong>Odor Threshold:</strong> Not available.</td>
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<td><strong>Water/Oil Dist. Coeff.:</strong> Not available.</td>
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<td><strong>Ionicity (in Water):</strong> Not available.</td>
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<td><strong>Dispersion Properties:</strong> See solubility in water.</td>
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<td><strong>Solubility:</strong> Soluble in cold water, hot water.</td>
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| Section 10: Stability and Reactivity Data |
Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Excess heat, dust generation, incompatible materials, ignition sources

Incompatibility with various substances: Reactive with oxidizing agents.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Sensitive to light.

Special Remarks on Corrosivity: Not available.

Polymerization: Will not occur.

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**Section 11: Toxicological Information**

Routes of Entry: Inhalation. Ingestion.

Toxicity to Animals:
LD50: Not available. LC50: Not available.

Chronic Effects on Humans: Causes damage to the following organs: mucous membranes.

Other Toxic Effects on Humans: Hazardous in case of skin contact (irritant), of ingestion, of inhalation.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans:
Acute Potential Health Effects: Skin: May cause skin irritation. Eyes: May cause eye irritation. Inhalation: May cause irritation of the respiratory tract. Symptoms may include coughing and shortness of breath. Ingestion: May be harmful if swallowed. May cause gastrointestinal tract irritation with nausea, vomiting, and diarrhea. The toxicological properties of this substance have not been fully investigated.

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**Section 12: Ecological Information**

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic.

Special Remarks on the Products of Biodegradation: Not available.

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**Section 13: Disposal Considerations**

Waste Disposal:
Waste must be disposed of in accordance with federal, state and local environmental control regulations.

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**Section 14: Transport Information**

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.
Special Provisions for Transport: Not applicable.

## Section 15: Other Regulatory Information

**Federal and State Regulations:** TSCA 8(b) inventory: Tetrazolium salt

**Other Regulations:**

**Other Classifications:**

**WHMIS (Canada):** Not controlled under WHMIS (Canada).

**DSCL (EEC):**
R22- Harmful if swallowed. R36/38- Irritating to eyes and skin. S24/25- Avoid contact with skin and eyes. S36/37/39- Wear suitable protective clothing, gloves and eye/face protection.

**HMIS (U.S.A.):**
- Health Hazard: 2
- Fire Hazard: 1
- Reactivity: 0
- Personal Protection: E

**National Fire Protection Association (U.S.A.):**
- Health: 2
- Flammability: 1
- Reactivity: 0
- Specific hazard:

**Protective Equipment:**
Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Splash goggles.

## Section 16: Other Information

**References:** Not available.

**Other Special Considerations:** Not available.

**Created:** 10/06/2010

**Last Updated:** 30/11/2012

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