

# Safety Data Sheet

Revision Date: 6/28/2019

## Section 1: Chemical Identification

### 1.1 Chemical Identification

**Product Name:** 2,3,5-Triphenyltetrazolium Chloride  
**Alternative Name:** Tetrazolium Chloride (TTC)  
**Catalog Number:** T-112

### 1.2 Relevant Uses and Uses Advised Against

**Recommended use:** This product is not for use in humans. It is for research purposes only.

### 1.3 Supplier Contact Information

**Distributed by:** Gold Biotechnology, Inc.  
1328 Ashby Rd.  
St. Louis, MO 63132  
**Phone:** (314) 890-8778  
**Fax:** (314) 890-0503  
**Email:** [contactgoldbio86@goldbio.com](mailto:contactgoldbio86@goldbio.com)

### 1.4 Emergency Contact Information

**Emergency Phone:** (800)248-7609 (Monday-Friday, 9:00 a.m. – 5:00 p.m. CST)

## Section 2: Hazardous Information

### 2.1 GHS Classification

Skin Irritation (Category 2)  
Eye Irritation (Category 2A)  
Specific Target Organ Toxicity, Single Exposure (Category 3)

### 2.2 GHS Label Elements, Including Precautionary statements



Warning

### 2.3 Hazard Statements

**H315:** Causes skin irritation  
**H319:** Causes serious eye irritation  
**H335:** May cause respiratory irritation

### 2.4 Precautionary Statements

**P261:** Avoid breathing dust/fume/gas/mist/vapours/spray

- P264:** Wash skin thoroughly after handling  
**P271:** Use only outdoors or in a well-ventilated area  
**P280:** Wear protective gloves/protective clothing/eye protection/face protection  
**P302+352:** IF ON SKIN: Wash with soap and water  
**P304+340:** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
**P305+351+338:** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing  
**P312:** Call a POISON CENTER or doctor/physician if you feel unwell  
**P321:** Specific treatment (see First Aid Measures on this label)  
**P332+313:** If skin irritation occurs: Get medical advice/attention  
**P337+313:** If eye irritation persists get medical advice/attention  
**P362:** Take off contaminated clothing and wash before reuse  
**P403+233:** Store in a well ventilated place. Keep container tightly closed  
**P405:** Store locked up  
**P501:** Dispose of contents/container to an approved waste disposal plant

### **2.8 HMIS Classification**

Health Hazard:	2
Chronic Health Hazard:	*
Flammability:	0
Physical Hazards:	0

### **2.9 NFPA Rating**

Health Hazard:	2
Fire:	0
Reactivity Hazard:	0

## **Section 3: Composition/Information on Ingredients**

### **3.1 Composition**

<b>Identity:</b>	2,3,5-Triphenyltetrazolium chloride
<b>IUPAC:</b>	2,3,5-triphenyltetrazol-2-ium;chloride
<b>Synonyms:</b>	Tetrazolium chloride (TTC)
<b>CAS Number:</b>	298-96-4
<b>Molecular Formula:</b>	C <sub>19</sub> H <sub>15</sub> N <sub>4</sub> Cl
<b>Molecular Weight:</b>	334.81 g/mol

## **Section 4: First Aid Measures**

### **4.1 Detailed First Aid Measures**

<b>Inhalation:</b>	If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
<b>Skin:</b>	Immediately wash skin copiously with soap and water. Take victim immediately to hospital. Consult a physician.
<b>Eye:</b>	Immediately rinse out with water for at least 15 minutes. Assure

adequate flushing by separating the eyelids with fingers. Consult a physician.

**Ingestion:** Wash out mouth with water. Drink plenty of water. Consult a physician. Never give anything by mouth to an unconscious person.

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

#### **4.2 Most Important Symptoms And Effects, Either Acute Or Delayed**

The most important known symptoms and effects are described in the labeling (see section 2). And /or in section 11.

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

Not available

## **Section 5: Fire Fighting Measures**

### **5.1 Conditions of flammability:**

Not flammable or combustible.

### **5.2 Suitable extinguishing media:**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### **5.3 Specific hazards arising from the chemical**

During a fire, highly toxic gases may be generated by thermal decomposition or combustion – Carbon Oxides, Nitrogen Oxides (NO<sub>x</sub>), Hydrogen Chloride Gas.

### **5.4 Specific protective actions for fire-fighters:**

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

## **Section 6: Accidental Release Measures**

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

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

### **6.2 Environmental precautions:**

Do not let product enter drains.

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

Soak up with absorbent material, discard.

## **Section 7: Handling and Storage**

### **7.1 Precautions for safe handling:**

Always wear personal protective equipment (PPE, see section 8).

### **7.2 Conditions for safe storage, including and incompatibilities:**

Keep container tightly closed.

Store at 4°C. Protect from light.

## **Section 8: Exposure Controls / Personal Protection**

### **8.1 Control Parameters:**

Contains no substances with occupational exposure limit values.

### **8.2: Appropriate engineering controls:**

Contains no substances with occupational exposure limit values.

### **8.3 Personal Protective Equipment (PPE):**

**Eye/Face Protection:** Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin Protection:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique - without touching outer surface of glove - to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory Protection:** Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Other Protective Clothing or Equipment:** Wear appropriate protective clothing to prevent exposure.

## **Section 9: Physical and Chemical Properties**

### **9.1 General chemical and physical properties**

<b>Appearance:</b>	Light Yellow Powder
<b>Odor:</b>	Not Available
<b>Odor Threshold:</b>	Not Available
<b>pH:</b>	Not Available
<b>Melting Point:</b>	250°C
<b>Freezing Point:</b>	Not Available
<b>Boiling Point/Range:</b>	Not Available
<b>Flash Point:</b>	Not Available
<b>Evaporation Rate:</b>	Not Available
<b>Lower Explosion Limit:</b>	Not Available

**Upper Explosion Limit:** Not Available  
**Vapor Pressure:** Not Available  
**Vapor Density:** Not Available  
**Relative Density:** Not Available  
**Solubility:** Not Available  
**Partition Coefficient  
n-octanol/water:** Not Available  
**Auto-Ignition  
Temperature:** Not Available  
**Decomposition  
Temperature:** Not Available  
**Viscosity:** Not Available

## **Section 10: Stability and Reactivity Data**

### **10.1 Reactivity:**

Not available

### **10.2 Chemical Stability:**

Stable under recommended storage conditions.

### **10.3 Possibility of hazardous reactions:**

Not available.

### **10.4 Conditions to avoid:**

Incompatible materials.

### **10.5 Incompatible materials:**

Strong oxidizing agents.

### **10.6 Hazardous decomposition products:**

Hazardous decomposition products formed under fire conditions. - Carbon Oxides, Nitrogen Oxides (NOx), Hydrogen Chloride Gas.

## **Section 11: Toxicological Information**

### **11.1 Toxicological effects**

#### **Acute toxicity:**

2,3,5-Triphenyltetrazolium chloride Intravenous: LD<sub>50</sub> (Mouse) - 5.6 mg/kg

#### **Skin corrosion/irritation:**

Not available.

#### **Respiratory or skin sensitization:**

Not available.

**Germ cell mutagenicity:**

Not available.

**Carcinogenicity:**

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

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

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

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

**Reproductive toxicity:**

Not available.

**STOT-single exposure:**

Inhalation - May cause respiratory irritation.

**STOT-repeated exposure:**

Not available.

**Aspiration hazard:**

May cause respiratory irritation

**Likely routes of exposure:**

Respiratory organs, mouth, skin, and eyes.

**Symptoms of exposure:**

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**Additional Information:**

RTECS: XF8100000

## **Section 12: Ecological Information**

**12.1 Toxicity:**

Not available.

**12.2 Persistence and degradability:**

Not available.

**12.3 Bioaccumulative potential:**

Not available.

**12.4 Mobility in soil:**

Not available.

**12.5 Other adverse effects:**

None.

## **Section 13 Disposal Considerations**

Dispose of product in accordance with local rules and regulations.

## **Section 14: Transport Information**

### **14.1 US Department of Transportation (DOT)**

This material is considered to be non-hazardous for transport.

### **14.2 International Maritime Dangerous Goods (IMDG):**

This material is considered to be non-hazardous for transport.

### **14.2 International Air Transportation Association (IATA)**

This material is considered to be non-hazardous for transport.

## **Section 15: Regulatory Information**

### **SARA 302 Components:**

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

### **SARA 313 Components:**

SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### **SARA 311/312 Hazards:**

Acute Health Hazard

### **Massachusetts Right To Know Components:**

2,3,5-Triphenyltetrazolium chloride

CAS - No.

298-96-4

### **Pennsylvania Right To Know Components:**

2,3,5-Triphenyltetrazolium chloride

CAS - No.

298-96-4

### **New Jersey Right To Know Components:**

2,3,5-Triphenyltetrazolium chloride

CAS - No.

298-96-4

### **California Prop. 65 Components:**

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

## **Section 16: Other Information**

While Gold Biotechnology, Inc. believes the information contained herein to be true and accurate, it has relied on information provided by others. Gold Biotechnology, INC. makes no warranties, express or implied, as to the accuracy or adequacy of the information contained herein or with respect to the results to be obtained from the use of the product. Gold Biotechnology, Inc. disclaims all liability with respect to the use of this product, including

**Gold Biotechnology**

St. Louis, MO

Ph: (314)890-8778

Web: [www.goldbio.com](http://www.goldbio.com)

Email: [contactgoldbio86@goldbio.com](mailto:contactgoldbio86@goldbio.com)

without limitation, liability for injury to the user or third-party persons.

**Preparation Information**

Gold Biotechnology  
Content/Marketing Department  
(800) 248-7609  
Last updated: 6/28/2019