

# Safety Data Sheet

Revision Date: 8/31/2018

## Section 1: Chemical Identification

### 1.1 Chemical Identification

**Product Name:** Timentin™ Ticarcillin/Clavulanate (15/1)  
**Alternative Name:** Ticarcillin Disodium/ Potassium Clavulanate (15/1)  
**Catalog Number:** T-104

### 1.2 Relevant Uses and Uses Advised Against

**Recommended use:** An inhibitor of bacterial cell wall synthesis. 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)  
 Respiratory Sensitizer (Category 1)  
 Skin Sensitizer (Category 1)  
 Specific Target Organ Toxicity, Single Exposure (Category 3)  
 Flammable Solid (Category 2)

### 2.2 GHS Label Elements, Including Precautionary statements



DANGER!

### 2.3 Hazard Statements

**H228:** Flammable solid  
**H315:** Causes skin irritation  
**H317:** May cause an allergic skin reaction

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- H319: Causes serious eye irritation
- H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
- H335: May cause respiratory irritation

## **2.4 Precautionary Statements**

- P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
- P240: Ground/bond container and receiving equipment
- P241: Use explosion-proof electrical/ventilating/light/.../equipment
- 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
- P272: Contaminated work clothing should not be allowed out of the workplace
- P280: Wear protective gloves/protective clothing/eye protection/face protection
- P285: In case of inadequate ventilation wear respiratory 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
- P321: Specific treatment (see First Aid Measures on this label)
- P333+313: If skin irritation or a rash occurs: Get medical advice/attention
- P337+313: If eye irritation persists get medical advice/attention
- P342+311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician
- P362: Take off contaminated clothing and wash before reuse
- P370+378: In case of fire: Use ... for extinction
- 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

## **2.5 OSHA Hazards**

Combustible solid, Respiratory sensitizer, Irritant

## **2.8 HMIS Classification**

Health Hazard:	2
Chronic Health Hazard:	*
Flammability:	3
Physical Hazards:	1

## **2.9 NFPA Rating**

Health Hazard:	2
Fire:	3
Reactivity Hazard:	1

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

## **3.1 Composition**

Identity:	Ticarcillin disodium salt
IUPAC:	disodium;(2S,5R,6R)-6-[[{(2R)-2-carboxylato-2-thiophen-3-ylacetyl}]

	amino]-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylate
<b>Synonyms:</b>	(2S,5R,6R)-6-[[[(2R)-Carboxy-3-thienylacetyl]amino]-3,3-dimethyl-7-oxo-4-thia-1-azabicyclo[3.2.0]heptane-2-carboxylic acid disodium
<b>CAS Number:</b>	4697-14-7 [~93-94%]
<b>Molecular Formula:</b>	C <sub>15</sub> H <sub>14</sub> N <sub>2</sub> Na <sub>2</sub> O <sub>6</sub> S <sub>2</sub>
<b>Molecular Weight:</b>	428.39 g/mol
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<b>Identity:</b>	Clavulanate potassium
<b>IUPAC:</b>	potassium;(2R,3Z,5R)-3-(2-hydroxyethylidene)-7-oxo-4-oxa-1-azabicyclo[3.2.0]heptane-2-carboxylate
<b>Synonyms:</b>	Potassium Clavulanate
<b>CAS Number:</b>	61177-45-5 [~6-7%]
<b>Molecular Formula:</b>	C <sub>8</sub> H <sub>8</sub> NO <sub>5</sub> K
<b>Molecular Weight:</b>	237.25 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.
<b>Ingestion:</b>	Wash out mouth with water. Drink plenty of water. Consult a physician. Never give anything by mouth to an unconscious person.
<b>Notes to Physician:</b>	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:**

Potentially flammable or combustible. Clavulanate potassium is a combustible solid which burns but propagates flame with difficulty.

### **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, Potassium oxides, Sulfur oxides, Sodium oxides.

### **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. Never allow product to get in contact with water during storage.

Store desiccated at -20°C.

## **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>	Off-white powder
<b>Odor:</b>	Not Available
<b>Odor Threshold:</b>	Not Available
<b>pH:</b>	5.5 to 7.5
<b>Melting Point:</b>	Not Available
<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
<b>Upper Explosion Limit:</b>	Not Available
<b>Vapor Pressure:</b>	Not Available
<b>Vapor Density:</b>	Not Available
<b>Relative Density:</b>	Not Available
<b>Solubility:</b>	Not Available
<b>Partition Coefficient n-octanol/water:</b>	Not Available
<b>Auto-Ignition Temperature:</b>	Not Available
<b>Decomposition Temperature:</b>	Not Available
<b>Viscosity:</b>	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, Potassium oxides, Sulfur oxides, Sodium oxides.

**Section 11: Toxicological Information**

**11.1 Toxicological effects**

**Acute toxicity:**

Ticarcillin disodium salt	Oral:	LD <sub>50</sub> (Rat) = 16000 mg/kg: Behavioral:Somnolence (general depressed activity). Diarrhoea
Clavulanate potassium	Oral:	LD <sub>50</sub> (Rat) = 7936 mg/kg: Behavioral:Somnolence (general depressed activity). Lungs, Thorax, or Respiration: Dyspnea.

**Skin corrosion/irritation:**

Allergic skin reactions might occur following dermal exposure.

**Respiratory or skin sensitization:**

Sensitization by inhalation and skin contact.

**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:**

Developmental Toxicity - Rat- Intravenous: Specific Developmental Abnormalities: Musculoskeletal system.  
Developmental Toxicity - Rat - Subcutaneous: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Specific Developmental Abnormalities: Musculoskeletal system  
Reproductive toxicity - Rat - Oral: Maternal Effects: Other effects. Effects on Newborn: Growth statistics (e.g., reduced weight gain).  
Developmental Toxicity - Rat - Intravenous: Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus).

**STOT-single exposure:**

Not available.

**STOT-repeated exposure:**

Not available.

**Aspiration hazard:**

Not available.

**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.

## **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, Chronic Health Hazard

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

Ticarcillin disodium  
Clavulanate potassium

CAS - No.  
4697-14-7 [~93  
-94%]  
61177-45-5 [~6-7%]

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

Ticarcillin disodium  
Clavulanate potassium

CAS - No.  
4697-14-7 [~93  
-94%]  
61177-45-5 [~6-7%]

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

Ticarcillin disodium  
Clavulanate potassium

CAS - No.  
4697-14-7 [~93  
-94%]  
61177-45-5 [~6-7%]

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

### **Preparation Information**

Gold Biotechnology



Content/Marketing Department  
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