

# Safety Data Sheet

Revision Date: 4/13/2022

## Section 1: Chemical Identification

### 1.1 Chemical Identification

**Product Name:** Daunorubicin HCl  
**Alternative Name:**  
**Catalog Number:** D-135

### 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



This product is not subject to hazardous classification

## Section 3: Composition/Information on Ingredients

### 3.1 Composition

**Identity:** Daunorubicin HCl  
**IUPAC:** (7S,9S)-9-acetyl-7-[(2R,4S,5S,6S)-4-amino-5-hydroxy-6-methyloxan-2-yl]oxy-6,9,11-trihydroxy-4-methoxy-8,10-dihydro-7H-tetracene-5,12-dione; hydrochloride  
**Synonyms:**  
**CAS Number:** 23541-50-6

**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)

**Molecular Formula:**  $C_{27}H_{29}NO_{10} \cdot HCl$

**Molecular Weight:** 563.98 g/mol

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

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

- Inhalation:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
- Skin:** Immediately wash skin copiously with soap and water. Take victim immediately to hospital. Consult a physician.
- Eye:** 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:**

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

### **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 (NOx), 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.

## **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>	Solid
<b>Odor:</b>	Not Available
<b>Odor Threshold:</b>	Not Available
<b>pH:</b>	Not Available
<b>Melting Point:</b>	188 - 190°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
<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>	177 - 190°C
<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 (NO<sub>x</sub>), Hydrogen chloride gas.

## **Section 11: Toxicological Information**

### **11.1 Toxicological effects**

#### **Acute toxicity:**

Daunorubicin HCl Oral: LD<sub>50</sub> (Rat) - 290 mg/kg

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

Not available.

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

Not available.

#### **Germ cell mutagenicity:**

Suspected of causing genetic defects.

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium

Result: positive

Remarks: (External MSDS)

Test Type: sister chromatid exchange assay

Test system: Human lymphocytes

Result: positive

Remarks: (External MSDS)

Test Type: Mutagenicity (mammal cell test): micronucleus.

Test system: Human lymphocytes

Result: positive

Remarks: (External MSDS)

Test Type: sister chromatid exchange assay

Species: Mouse

Cell type: Bone marrow

Result: positive

Remarks: (External MSDS)

#### **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:**

May damage the unborn child. May damage fertility.

**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:**

Central nervous system depression, Gastrointestinal disturbance

After absorption: Central nervous system depression, Gastrointestinal disturbance

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

**Additional Information:**

RTECS: HB7878000

Handle in accordance with good industrial hygiene and safety practice

## **Section 12: Ecological Information**

**12.1 Toxicity:**

Not available.

**12.2 Persistence and degradability:**

Inherent biodegradability.

**12.3 Bioaccumulative potential:**

Does not bioaccumulate.

**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)**

UN Number: 2811

Proper shipping name: Toxic solids, organic, n.o.s. (Daunorubicin hydrochloride)

Class: 6.1

**Packing Group:** III

**Marine Pollutant:**

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

**UN Number:** 2811

**Proper shipping name:** TOXIC SOLID, ORGANIC, N.O.S. (Daunorubicin hydrochloride)

**Class:** 6.1

**Packing Group:** III

**Marine Pollutant:**

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

**UN Number:** 2811

**Proper shipping name:** Toxic solids, organic, n.o.s. (Daunorubicin hydrochloride)

**Class:** 6.1

**Packing Group:** III

**Marine Pollutant:**

#### **Further Information**

EMS-No: F-A, S-A

## **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:**

Daunorubicin HCl CAS - No. 23541-50-6

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

Daunorubicin HCl CAS - No. 23541-50-6

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

Daunorubicin HCl CAS - No. 23541-50-6

#### **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

**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)

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  
(800) 248-7609  
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