

# Daunorubicin • HCl (Daunomycin • HCl) : sc-200921



The Power to Question

## MATERIAL SAFETY DATA SHEET

### 1 Identification of substance:

**Product Name:** Daunorubicin • HCl (Daunomycin • HCl)  
**Catalog Number:** sc-200921  
**Supplier:** Santa Cruz Biotechnology, Inc.  
2145 Delaware Avenue  
Santa Cruz, California 95060  
800.457.3801 or 831.457.3800  
**Emergency:** ChemWatch  
Within the US & Canada: 877-715-9305  
Outside the US & Canada: +800 2436 2255  
(1-800-CHEMCALL) or call +613 9573 3112

### 2 Hazard(s) identification

**Classification of the substance or mixture**  
**Classification according to Regulation (EC) No 1272/2008**



GHS06 Skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.



GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Carc. 2 H351 Suspected of causing cancer.



GHS07

Skin Sens. 1 H317 May cause an allergic skin reaction.

**Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Xn; Harmful

R22-40: Harmful if swallowed. Limited evidence of a carcinogenic effect.



Xn; Sensitizing

R42/43: May cause sensitization by inhalation and skin contact.

**Information concerning particular hazards for human and environment:** Not applicable

**Hazards not otherwise classified** No information known.

### Label elements

**Labelling according to Regulation (EC) No 1272/2008**

The substance is classified and labeled according to the CLP regulation.

### Hazard pictograms



GHS06



GHS08

**Signal word** Danger

### Hazard statements

H301 Toxic if swallowed.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H317 May cause an allergic skin reaction.

H351 Suspected of causing cancer.

#### Precautionary statements

P284 In case of inadequate ventilation wear respiratory protection.

P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor/...

P302+P352 IF ON SKIN: Wash with plenty of water/...

P321 Specific treatment (see on this label).

P405 Store locked up.

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

#### WHMIS classification

D1B - Toxic material causing immediate and serious toxic effects

D2A - Very toxic material causing other toxic effects



#### Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH	2	Health (acute effects) = 2
FIRE	1	Flammability = 1
REACTIVITY	1	Physical Hazard = 1

#### Other hazards

#### Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

### 3 Composition/information on ingredients

Chemical characterization: Substances

CAS# Description:

23541-50-6 Daunorubicin hydrochloride

Identification number(s):

EC number: 245-723-4

### 4 First-aid measures

#### Description of first aid measures

##### After inhalation

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice.

##### After skin contact

Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice.

##### After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek medical treatment.

#### Information for doctor

Most important symptoms and effects, both acute and delayed

No further relevant information available.

Indication of any immediate medical attention and special treatment needed

No further relevant information available.

### 5 Fire-fighting measures

#### Extinguishing media

##### Suitable extinguishing agents

Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

##### Special hazards arising from the substance or mixture

If this product is involved in a fire, the following can be released:

Carbon monoxide and carbon dioxide

Nitrogen oxides (NOx)

Hydrogen chloride (HCl)

**Advice for firefighters**

**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

## 6 Accidental release measures

**Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

**Environmental precautions:**

Do not allow material to be released to the environment without proper governmental permits.

Do not allow product to reach sewage system or any water course.

Do not allow to penetrate the ground/soil.

**Methods and material for containment and cleaning up:**

Dispose contaminated material as waste according to item 13.

**Prevention of secondary hazards:** No special measures required.

**Reference to other sections**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

## 7 Handling and storage

**Handling**

**Precautions for safe handling**

Keep container tightly sealed.

Ensure good ventilation at the workplace.

Prevent formation of dust.

**Information about protection against explosions and fires:** No information known.

**Conditions for safe storage, including any incompatibilities**

**Storage**

**Requirements to be met by storerooms and receptacles:** Refrigerate

**Information about storage in one common storage facility:**

Store away from oxidizing agents.

Protect from heat.

Store away from water/moisture.

**Further information about storage conditions:**

This product is hygroscopic.

Store under dry inert gas.

Keep container tightly sealed.

Protect from humidity and water.

Refrigerate

**Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

**Control parameters**

**Components with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

**Additional information:** No data

**Exposure controls**

**Personal protective equipment**

**General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Maintain an ergonomically appropriate working environment.

**Breathing equipment:** Use suitable respirator when high concentrations are present.

**Protection of hands:**

Impervious gloves

Check protective gloves prior to each use for their proper condition.

The selection of suitable gloves not only depends on the material, but also on quality.

Quality will vary from manufacturer to manufacturer.

Eye protection: Safety glasses  
Body protection: Protective work clothing.

## 9 Physical and chemical properties

<b>Information on basic physical and chemical properties</b>	
<b>General Information</b>	
<b>Appearance:</b>	
<b>Form:</b>	Powder
<b>Formula:</b>	C <sub>27</sub> H <sub>29</sub> N <sub>10</sub> • HCl
<b>Weight:</b>	563.98
<b>pH-value:</b>	Not applicable.
<b>Change in condition</b>	
<b>Melting point/Melting range:</b>	Not determined
<b>Boiling point/Boiling range:</b>	Not determined
<b>Sublimation temperature / start:</b>	Not determined
<b>Flammability (solid, gaseous)</b>	Not determined.
<b>Ignition temperature:</b>	Not determined
<b>Decomposition temperature:</b>	Not determined
<b>Auto igniting:</b>	Not determined.
<b>Danger of explosion:</b> Not determined.	
<b>Explosion limits:</b>	
<b>Lower:</b>	Not determined
<b>Upper:</b>	Not determined
<b>Vapor pressure:</b>	Not applicable.
<b>Density:</b>	Not determined
<b>Relative density</b>	Not determined.
<b>Vapor density</b>	Not applicable.
<b>Evaporation rate</b>	Not applicable.
<b>Solubility in / Miscibility with</b>	
<b>Water:</b>	Not determined
<b>Partition coefficient (n-octanol/water):</b>	Not determined.
<b>Viscosity:</b>	
<b>dynamic:</b>	Not applicable.
<b>kinematic:</b>	Not applicable.
<b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

**Reactivity** No information known.  
**Chemical stability** Stable under recommended storage conditions.  
**Thermal decomposition / conditions to be avoided:**  
Decomposition will not occur if used and stored according to specifications.  
**Possibility of hazardous reactions** No dangerous reactions known  
**Incompatible materials:**  
Water/moisture  
Oxidizing agents  
Heat  
**Hazardous decomposition products:**  
Carbon monoxide and carbon dioxide  
Nitrogen oxides  
Hydrogen chloride (HCl)

## 11 Toxicological information

**Information on toxicological effects**

**Acute toxicity:**

Harmful if swallowed.

The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for components in this product.

**LD/LC50 values that are relevant for classification:**

Oral	LD50	205 mg/kg (mouse)
		290 mg/kg (rat)

**Skin irritation or corrosion:** May cause irritation

**Eye irritation or corrosion:** May cause irritation

**Sensitization:**

May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
 May cause an allergic skin reaction.

**Germ cell mutagenicity:**

The Registry of Toxic Effects of Chemical Substances (RTECS) contains mutation data for this substance.

**Carcinogenicity:** Suspected of causing cancer.

**Reproductive toxicity:** No effects known.

**Specific target organ system toxicity - repeated exposure:** No effects known.

**Specific target organ system toxicity - single exposure:** No effects known.

**Aspiration hazard:** No effects known.

**Additional toxicological information:**

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

**12 Ecological information****Toxicity**

**Aquatic toxicity:** No further relevant information available.

**Persistence and degradability** No further relevant information available.

**Behavior in environmental systems:**

**Bioaccumulative potential** No further relevant information available.

**Mobility in soil** No further relevant information available.

**Additional ecological information:****General notes:**

Do not allow material to be released to the environment without proper governmental permits.  
 Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Avoid transfer into the environment.

**Results of PBT and vPvB assessment**

**PBT:** Not applicable.

**vPvB:** Not applicable.

**Other adverse effects** No further relevant information available.


**13 Disposal considerations****Waste treatment methods**



**Recommendation** Consult state, local or national regulations to ensure proper disposal.

**Uncleaned packagings:**

**Recommendation:** Disposal must be made according to official regulations.

**14 Transport information**

<b>UN-Number</b> DOT, ADR, IMDG, IATA	UN2811
<b>UN proper shipping name</b> DOT ADR IMDG, IATA	Toxic solids, organic, n.o.s. (Daunorubicin hydrochloride) 2811 Toxic solids, organic, n.o.s. (Daunorubicin hydrochloride) TOXIC SOLID, ORGANIC, N.O.S. (Daunorubicin hydrochloride)
<b>Transport hazard class(es)</b> DOT	
	
<b>Class</b> <b>Label</b>	6.1 Toxic substances. 6.1

<b>ADR</b>	
	
<b>Class</b>	6.1 (T2) Toxic substances
<b>Label</b>	6.1
<b>IMDG, IATA</b>	
	
<b>Class</b>	6.1 Toxic substances.
<b>Label</b>	6.1
<b>Packing group</b>	
<b>DOT, ADR, IMDG, IATA</b>	III
<b>Environmental hazards:</b>	Not applicable.
<b>Special precautions for user</b>	Warning: Toxic substances
<b>Danger code (Kemler):</b>	60
<b>EMS Number:</b>	F-A,S-A
<b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>	Not applicable.
<b>Transport/Additional information:</b>	
<b>DOT</b>	
<b>Marine Pollutant (DOT):</b>	No
<b>UN "Model Regulation":</b>	UN2811, Toxic solids, organic, n.o.s. (Daunorubicin hydrochloride), 6.1, III

## 15 Regulatory information

**Safety, health and environmental regulations/legislation specific for the substance or mixture**

**National regulations**

**SARA Section 313 (specific toxic chemical listings)** Substance is not listed.

**California Proposition 65**

**Prop 65 - Chemicals known to cause cancer** Substance is not listed.

**Prop 65 - Developmental toxicity**

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**Prop 65 - Developmental toxicity, female** Substance is not listed.

**Prop 65 - Developmental toxicity, male** Substance is not listed.

**Information about limitation of use:** For use only by technically qualified individuals.

**Other regulations, limitations and prohibitive regulations**

**Substances of very high concern (SVHC) according to REACH, Article 57**

Substance is not listed.

**REACH - Pre-registered substances** Substance is listed.

**Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information:

The above information is believed to be correct but does not purport to be complete and should be used only as a guide. The burden of safe use of this material rests entirely with the user.

3/21/2014