

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### Identification of the substance or mixture

**Catalog #:** 10038-1, 10038-2  
**Product Name:** Doxorubicin HCl  
**CAS-No.:** 25316-40-9

### Company/undertaking identification

Cepharm Life Sciences Inc.  
 11830 W Market Place, Suite K  
 Fulton, MD 20759  
 USA  
 Toll Free: 1-800-257-1565  
 Phone: 410-636-4954

**24-hour Emergency Response for Hazardous Materials [or Dangerous Goods] Incident, Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Toll Free: 1-800-424-9300/ +1 703-527-3887 CCN 1010970**

**For Research Use Only. Not for use in diagnostic procedures.**

## SECTION 2: Hazards identification


### Classification of the substance or mixture

#### **GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Acute toxicity, Oral (Category 2), H300  
 Germ cell mutagenicity (Category 2), H341  
 Reproductive toxicity (Category 1B), H360  
 Acute aquatic toxicity (Category 2), H401  
 Chronic aquatic toxicity (Category 2), H411

For the full text of the H-Statements mentioned in this Section, see Section 16

### GHS Label elements, including precautionary statements

Pictogram	
Signal word	Danger
Hazard statement(s)	
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H350	May cause cancer.
Precautionary statement(s)	
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P264	Wash skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P312 + P330	IF SWALLOWED: Immediately call a POISON CENTER/doctor if you feel unwell. Rinse mouth.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P332 + P313	If skin irritation occurs: Get medical advice/ attention.

P337 + P313  
P362  
P405  
P501

If eye irritation persists: Get medical advice/ attention.  
Take off contaminated clothing and wash before reuse.  
Store locked up.  
Dispose of contents/ container to an approved waste disposal plant.

Hazards not otherwise classified (HNOC) or not covered by GHS – none

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### SECTION 3: Composition / Information on Ingredients

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#### Substances

Synonyms: Adriamycin hydrochloride  
Hydroxydaunorubicinhydrochloride  
DOX

Formula:  $C_{27}H_{29}NO_{11} \cdot HCl$   
Molecular Weight: 579.98 g/mol  
CAS-No.: 25316-40-9  
EC-No.: 246-818-3

#### Hazardous Components

Component	Classification	Concentration
Doxorubicin hydrochloride	Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2A; Carc. 1B; H302, H315, H319, H350	<= 100%

For the full text of the H-Statements mentioned in this section, see Section 16.

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### SECTION 4: First Aid Measures

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#### Description of first aid measures

##### General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

##### If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

##### In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

##### In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

##### If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

#### Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling.

#### Indication of any immediate medical attention and special treatment needed

No data available.

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### SECTION 5: Firefighting Measures

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#### Extinguishing Media

##### Suitable extinguishing media

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

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

Carbon oxides, Nitrogen oxides (NO<sub>x</sub>), Hydrogen chloride gas

##### Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

##### Further information

No data available.

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## SECTION 6: Accidental Release Measures

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### Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.  
For personal protection see section 8.

### Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling & Storage

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### Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.  
Provide appropriate exhaust ventilation at places where dust is formed.  
For precautions see section 2.2.

### Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

Recommended storage temperature 2 – 8 degrees C

Moisture sensitive. Light sensitive.

### Specific end use(s)

Apart from the users mentioned in section 1, no other specific uses are stipulated.

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## SECTION 8: Exposure Controls / Personal Protection

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### Control parameters

#### Components with workplace control parameters

Contains no substances with occupational exposure limit values.  
Hazardous components without workplace control parameters

### Exposure controls

#### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

#### Personal Protective Equipment

##### 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 glove's outer surface) 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.

##### Full contact

Material: Nitrile rubber  
Minimum layer thickness: 0.11 mm  
Break through time: 480 min  
Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

##### Splash contact

Material: Nitrile rubber  
Minimum layer thickness: 0.11 mm  
Break through time: 480 min  
Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)  
data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

#### **Body protection**

Complete suit protecting against chemicals, 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).

#### **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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

### **Information on basic physical and chemical properties**

a) Appearance	Form: solid Color: red
b) Odor	No data available
c) Odor Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	Melting point/range: 216 °C (421 °F)
f) Initial boiling point and boiling range	No data available
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapour pressure	No data available
l) Vapour density	No data available
m) Relative density	No data available
n) Water solubility	No data available
o) Partition coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

#### **Other safety information**

No data available

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## **SECTION 10: Stability & Reactivity**

### **Reactivity**

No data available

### **Chemical stability**

Stable under recommended storage conditions.

### **Possibility of hazardous reactions**

No data available

### **Conditions to avoid**

Light. Exposure to moisture.

### **Incompatible materials**

Strong oxidizing agents.

### **Hazardous decomposition products**

Other decomposition products – no data available  
In the event of fire: see section 5

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## **SECTION 11: Toxicological Information**

### **Information on toxicological effects**

#### **Acute toxicity**

LD50 Oral - Mouse - 698 mg/kg  
Remarks: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye:Lacrimation. Behavioral:Muscle weakness. Diarrhea  
Inhalation: No data available  
Dermal: No data available

**Skin corrosion / irritation**

No data available

**Serious eye damage/eye irritation**

No data available

**Respiratory or skin sensitization**

No data available

**Germ cell mutagenicity**

No data available

**Carcinogenicity**

This product is or contains a component that has been reported to be probably carcinogenic based on its IARC, OSHA, ACGIH, NTP, or EPA classification.

Possible human carcinogen

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.

NTP: Reasonably anticipated to be a human carcinogen (Doxorubicin hydrochloride)

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**

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Additional Information**

RTECS: QI9295900

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

Liver - Irregularities - Based on Human Evidence

Liver - Irregularities - Based on Human Evidence

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## SECTION 12: Ecological Information

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**Toxicity**

No data available

**Persistence and degradability**

No data available

**Bio-accumulative potential**

No data available

**Mobility in soil**

No data available

**Results of PBT and vPvB assessment**

PBT/vPvB assessment not available as chemical safety assessment not required / not conducted

**Other adverse effects**

No data available.

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## SECTION 13: Disposal Considerations

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### Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

#### Contaminated packaging

Dispose of as unused product

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## SECTION 14: Transport Information

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### DOT (US)

Not dangerous goods

### IMDG

Not dangerous goods

### IATA

Not dangerous goods

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## SECTION 15: Regulatory Information

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### SARA 302 Components

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

### SARA 313 Components

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

No components are subject to the Massachusetts Right to Know Act.

### Pennsylvania Right to Know Components

Doxorubicin hydrochloride                      CAS-No.: 25316-40-9                      Revision Date: 2014-10-14

### New Jersey Right to Know Components

Doxorubicin hydrochloride                      CAS-No.: 25316-40-9                      Revision Date: 2014-10-14

### California Prop. 65 Components

WARNING! This product contains a chemical known to the State of California to cause cancer.

Doxorubicin hydrochloride                      CAS-No.25316-40-9                      Revision Date: 2008-06-17

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Doxorubicin hydrochloride                      CAS-No.25316-40-9                      Revision Date: 2008-06-17

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## SECTION 16: Other Information

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### Full text of H-Statements referred to under sections 2 and 3.

Acute Tox.	Acute toxicity
Carc.	Carcinogenicity
Eye Irrit.	Eye irritation
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H350	May cause cancer.
Skin Irrit.	Skin irritation

### HMIS Rating

Health hazard:                      2

Chronic Health Hazard:	*
Flammability:	0
Physical Hazard	0

**NFPA Rating**

Health hazard:	2
Fire Hazard:	0
Reactivity Hazard:	0

**Disclaimer:**

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It does not represent any guarantee of the properties of the product. Cepham Life Sciences Incorporated and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.