



Safety Data Sheet

1. IDENTIFICATION OF THE SUBSTANCES/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1. Product Identifiers**
- | | |
|------------------------|---------------------------|
| Product Code(s) | HB4183 |
| Product Name | Doxorubicin hydrochloride |
- 1.2. Relevant identified uses of the substance or mixture and uses advised against**
- | | |
|-----------------------------|---|
| Recommended use | For research use only – Not for human use |
| Uses advised against | No information available |
- 1.3. Details of the supplier of the safety data sheet**
- Supplier**
- HelloBio Ltd
Unit 3 IO Centre
Cabot Park
Moorend Farm Avenue
Avonmouth
Bristol
BS 11 0QL
UK
Tel: +44 (0)117 318 0505
Fax: +44 (0)1179 811 601
- For further information, please contact: technicalsupport@hellobio.com
- 1.4. Emergency Telephone number**
- | | |
|----------------------------|----------------------------|
| Emergency telephone | - Tel: +44 (0)117 318 0505 |
|----------------------------|----------------------------|

2. HAZARDS IDENTIFICATION

- 2.1. Classification of the substance or mixture**
- | | |
|---|------------|
| GHS/CLP – REGULATION (EC) No 1272/2008 | Category 3 |
| Acute oral toxicity | |
- DSD/DPD – Classification according to EU Directives 67/548/EEC or 1999/45/EC**
- T - Toxic

2.2. Label Elements



Signal Word

Danger

Hazard Statements

H340 – May cause genetic defects

H350 – May cause cancer

H360 – May damage fertility or the unborn child

Precautionary Statements

P308 + P313 – IF exposed or concerned: Get medical advice/attention

P281 – Use personal protective equipment as required

P201 – Obtain special instructions before use

P202 – Do not handle until all safety precautions have been read and understood

P501 - Dispose of contents/ container to an approved waste disposal plant

P405 - Store locked up

Other hazards

Caution – substance not yet completely tested

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Product Name: Doxorubicin hydrochloride

Synonyms:

Formula: $C_{27}H_{29}NO_{11}.HCl$

Molecular Weight: 579.98

CAS Number 25316-40-9

4. FIRST AID MEASURES

4.1. Description of first aid measures

General advice

If symptoms persist, call a physician.

Eye contact

Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If symptoms persist, call a physician.

Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.

Ingestion

Rinse mouth. If symptoms persist, call a physician

Inhalation

Move to fresh air. If symptoms persist, call a physician.

- 4.2. Most important symptoms and effects, both acute and delayed**
To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroughly investigated.
- 4.3. Indication of immediate medical attention and special treatment needed**
Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.

5. FIRE-FIGHTING MEASURES

- 5.1. Extinguishing media**
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide
- 5.2. Special hazards arising from the substance or mixture**
In combustion, may emit toxic fumes.
- 5.3. Precautions for fire-fighters**
Wear suitable protective clothing to prevent contact with skin and eyes and self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

- 6.1. Personal precautions, protective equipment and emergency procedures**
Do not take action without suitable protective clothing – see section 8 of SDS. Evacuate personnel to safe areas. Ensure adequate ventilation. Avoid breathing vapours, mist, dust or gas.
- 6.2. Environmental precautions**
Do not let product enter drains.
- 6.3. Methods and materials for containment and cleaning up**
Cover spillage with suitable absorbent material. Using non-spark tools, sweep up material and place in an appropriate container. Decontaminate spill site with 10% caustic solution and ventilate area until disposal is complete. Hold all material for appropriate disposal as described under section 13 of SDS.
- 6.4. Reference to other sections**
For required PPE see section 8. For disposal see section 13.

7. HANDLING AND STORAGE

- 7.1. Precautions for safe handling**
Use in a chemical fume hood, with air supplied by an independent system. Avoid inhalation, contact with eyes, skin and clothing. Avoid the formation of dust and aerosols. Use in a well-ventilated area. Keep away from sources of ignition. Avoid prolonged or repeated exposure.
- 7.2. Conditions for safe storage, including any incompatibilities.**
Store in cool, well-ventilated area. Keep away from direct sunlight. Keep container tightly sealed until ready for use. Recommended storage temperature: Store at -20°C
- 7.3. Specific end uses**
Use in a laboratory fume hood where possible. Refer to employer's COSHH risk assessment.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

- 8.1. Control parameters**
- Components with workplace control parameters**

Contains no substances with occupational exposure limit values.

8.2. Exposure controls

Appropriate engineering controls

Use in a fume hood where applicable. Ensure all engineering measures described under section 7 of SDS are in place. Ensure laboratory is equipped with a safety shower and eye wash station.

Personal protective equipment

Eye/face protection

Use appropriate safety glasses.

Skin protection

Use appropriate chemical resistant gloves (minimum requirement use standard BS EN 374:2003). Gloves should be inspected before use. Wash and dry hands thoroughly after handling.

Body protection

Wear appropriate protective clothing.

Respiratory protection

If risk assessment indicates necessary, use a suitable respirator.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance	Red solid	Vapour pressure	No data available
Odour	No data available	Vapour density	No data available
Odour threshold	No data available	Relative density	No data available
pH	No data available	Solubility(ies)	Water
Melting/freezing point	No data available	Partition coefficient	No data available
Boiling point/range	No data available	Auto-ignition temperature	No data available
Flash Point	No data available	Decomposition temperature	No data available
Evaporation rate	No data available	Viscosity	No data available
Flammability (solid, gas)	No data available	Explosive properties	No data available
Upper/lower flammability or explosive limits	No data available	Oxidising properties	No data available

9.2. Other safety information

No data available

10. STABILITY AND REACTIVITY

10.1. Reactivity

Stable under recommended transport or storage conditions.

10.2. Chemical Stability

Stable under recommended storage conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions will not occur under normal transport or storage conditions.

10.4. Conditions to avoid

Heat, moisture

- 10.5. Incompatible materials**
Strong acids/alkalis, strong oxidising/reducing agents.
- 10.6. Hazardous decomposition products**
Carbon monoxide (CO), Carbon dioxide (CO₂), Nitrogen oxides (NO_x), hydrogen chloride.

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute Toxicity

IPR-RAT LD50: 16030µg/kg; SCU-RAT LD50: 21840µg/kg; IVN-RAT LD50: 12510µg/kg; IMS-RAT LD50: 16mg/kg; ORLMUS LD50: 698mg/kg; IPR-MUS LD50: 11160µg/kg; SCU-MUS LD50: 7678µg/kg; IMS-MUS LD50: 13700µg/kg; IVN-RBT LD50: 5980µg/kg

Inhalation	There may be irritation of the throat with a feeling of tightness in the chest
Eye contact	There may be irritation and redness
Skin contact	There may be mild irritation at the site of contact.
Ingestion	There may be irritation of the throat.
<u>Chronic toxicity</u>	
Corrosivity	No Information available
Sensitization	No Information available
Neurological effects	No Information available
Reproductive toxicity	No Information available
Mutagenic effects	No Information available
Target Organ Effects	No Information available

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects

As supplied, the preparation is not expected to present significant adverse environmental effects

12.2. Persistence and degradability

No Information available

12.3. Bioaccumulative potential

No Information available

12.4. Mobility in soil

No Information available

12.5. Results of PBT and vPvB assessment

No Information available

- 12.6. **Other adverse effects**
No Information available

13. DISPOSAL CONSIDERATIONS

- 13.1. **Waste treatment methods**
Waste from residues/unused products
Dispose of in accordance with local regulations
- Contaminated packaging**
Empty containers should be taken to an approved waste handling site for recycling or disposal.
- Other information**
According to the European Waste Catalogue. Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used.

14. TRANSPORT INFORMATION

ADR	No Information available
Proper shipping name	No Information available
Hazard Class	No Information available
UN/ID No	No Information available
Packing Group	No Information available
IATA	No Information available
Proper shipping name	No Information available
Hazard Class	No Information available
UN/ID No	No Information available
Packing Group	No Information available
DOT	No Information available
Proper shipping name	No Information available
Hazard Class	No Information available
UN/ID No	No Information available
Packing Group	No Information available

15. REGULATORY INFORMATION

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

California Proposition 65

WARNING: This product can expose you to Doxorubicin hydrochloride, which is known to the State of California to cause cancer. For more information go to.

www.P65Warnings.ca.gov/product

Date Listed Jul 1st 1987

WARNING: This product can expose you to Doxorubicin hydrochloride, which is known to the State of California to cause birth defects or other reproductive harm. For more

information go to. www.P65Warnings.ca.gov/product

Date Listed Jan 29th 1999

Chemical Safety Assessment

No information available

16. OTHER INFORMATION

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless stated in the text.