

Material Safety Data Sheet

Section 1 - Chemical Product and Company Identification

MSDS Name: Daunorubicin HCl
Synonyms: Daunomycin hydrochloride
Company Identification: PI Chemicals Ltd.
Building B, 633 E Shan Road, Pudong New Area
Shanghai 200127, China
Telephone Number: 86-21-58953700
Fax Number: 86-21-58953701

Section 2 - Product Information

Catalog Number: PI-21715
CAS Number: 23541-50-6
MDL Number: MFCD04974507
EC Number: 245-723-4
Purity: 97%

Section 3 - Physical and Chemical Properties

Physical state: Powder
Color: Orange-red crystalline hygroscopic
Molecular Formula: $C_{27}H_{29}NO_{10} \cdot HCl$
Molecular Weight: 563.98
Freezing/Melting Point: Not available
Boiling Point: Not available
Flash Point: Not available
Autoignition Temperature: Not available
Refractive Index (nD20): Not available
Density: Not available
Decomposition Temperature: Not available
Solubility: Not available

Section 4 - Hazards Identification

Eye: May cause eye irritation.
Skin: May be harmful if absorbed through skin. May cause skin irritation.
Ingestion: Toxic if swallowed.
Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.

Section 5 - First Aid Measures

- General advice:** Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
- Eye:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
- Skin:** Wash off with soap and plenty of water. Consult a physician.
- Ingestion:** Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
- Inhalation:** If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

Section 6 - Stability and Reactivity

- Chemical Stability:** Stable under recommended storage conditions.
- Materials to avoid:** Strong oxidizing agents.
- Hazardous Decomposition Products:** Carbon oxides, nitrogen oxides (NO_x), Hydrogen chloride gas.
- Hazardous Polymerization:** Will not occur.

Section 7 - Handling and Storage

- Handling:** Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.
- Storage:** Keep container tightly closed in a dry and well-ventilated place.
Recommended storage temperature: 2 - 8 °C

Section 8 - Personal Protection

- Eyes:** Wear appropriate protective eyeglasses.
- Skin:** Wear appropriate protective gloves to prevent skin exposure.
- Clothing:** Wear appropriate protective clothing to prevent skin exposure.
- Respirators:** Use an approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Fire and Explosion Hazard Data

- General Information:** As in any fire, wear a self-contained breathing apparatus, MSHA/NIOSH (approved or equivalent) and protective clothing to prevent contact with skin and eyes.
- Extinguishing Media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Section 10 - Accidental Release Measures

- General Information:** Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container.

Section 11 - Toxicological Information

RTECS#: CAS# 23541-50-6: HB7878000.

LD50/LC50: RTECS # HB7878000.

Carcinogenicity: Daunorubicin HCl -Not listed as a carcinogen by ACGIH, IARC, NTP, or OHSA.

Section 12 - Environmental information

Not available

Section 13 - Disposal Consideration

Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state and local environmental regulations.

Section 14 - Transport Information

IATA: UN-Number: 2811 Class: 6.1 Packing group: III.

IMO: UN-Number: 2811 Class: 6.1 Packing group: III.

RID/ADR: UN-Number: 2811 Class: 6.1 Packing group: III.

Section 15 - Regulatory Information

OSHA Hazards: Target Organ Effect, Toxic by ingestion, Respiratory sensitiser, Mutagen.

Hazard Symbols: Xn

Indication of Danger: Harmful

Risk Phrases:

R 22: Harmful if swallowed.

R 40: Limited evidence of a carcinogenic effect.

R 42/43: May cause sensitization by inhalation and skin contact.

Safety Phrases:

S 22: Do not breathe dust.

S 36/37: Wear suitable protective clothing and gloves.

S 45: In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).

Section 16 - Additional Information

MSDS Creation Date: March 15, 2009

Update: 10 May, 2011

The above information is believed to be accurate and represents the best knowledge available to us currently. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no way shall PI Chemicals, be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, even if PI Chemicals has been advised of the possibility of such damages.