

## Material Safety Data Sheet

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Bufalin  
**Synonyms:** 3 $\beta$ ,14-Dihydroxy-5 $\beta$ ,20(22)-bufadienolide,  
5 $\beta$ ,20(22)-Bufadienolide-3 $\beta$ ,14-diol  
**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-10501  
**CAS Number:** 465-21-4  
**MDL Number:** MFCD00056525  
**Purity:** 98%

### Section 3 - Physical and Chemical Properties

**Physical state:** Powder  
**Color:** White  
**Molecular Formula:** C<sub>24</sub>H<sub>34</sub>O<sub>4</sub>  
**Molecular Weight:** 386.52  
**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. May be fatal if absorbed through skin.  
**Ingestion:** May be fatal 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.

**Conditions to avoid:** Avoid moisture.

**Materials to avoid:** Strong oxidizing agents.

**Hazardous Decomposition Products:** Carbon oxides.

## **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 or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

## **Section 9 - Fire and Explosion Hazard Data**

**Suitable extinguishing media:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Special protective equipment for fire-fighters:** Wear self contained breathing apparatus for fire fighting if necessary.

## Section 10 - Accidental Release Measures

**Personal precautions:** Avoid dust formation. Avoid breathing vapors, mist or gas.

**Environmental precautions:** Do not let product enter drains.

**Methods and materials for containment and cleaning up:** Sweep up and shovel. Keep in suitable, closed containers for disposal.

## Section 11 - Toxicological Information

**RTECS#:** CAS# 465-21-4: EI2962500.

**LD50/LC50:** RTECS#: EI2962500.

**Carcinogenicity:** Bufalin - Not listed as a carcinogen by ACGIH, IARC, NTP, or OSHA.

## Section 12 - Environmental information

Not available.

## Section 13 - Disposal Consideration

**Product:** Offer surplus and non-recyclable solutions to a licensed disposal company.

**Contaminated packaging:** Dispose of as unused product.

## Section 14 - Transport Information

**ADR/RID:** UN-Number: 3462 Class: 6.1 Packing group: II.

**IMDG:** UN-Number: 3462 Class: 6.1 Packing group: II.

**IATA:** UN-Number: 3462 Class: 6.1 Packing group: II.

## Section 15 - Regulatory Information

### European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: T+

Indication of Danger: Very Toxic

**OSHA Hazards:** Target Organ Effect, Highly toxic by ingestion

**Risk Phrase:** R 28: Very Toxic if swallowed.

**Safety Phrases:**

S 28: After contact with skin, wash immediately with plenty of water (to be specified by the manufacturer).

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***

***Creation Date:*** 13 October, 2010

***Update Date:*** 20 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.*

***Note: For R&D use only.***