

**4-EPITETRACYCLINE  
HYDROCHLORIDE, EVOPURE®  
SAFETY DATA SHEET**

**1. IDENTIFICATION**

Product Identifier  
Distributor Name  
Distributor Address

4-Epitetracycline hydrochloride, EvoPure®  
TOKU-E Company  
715 W Orchard Dr, Suite 3  
Bellingham, WA 98225

Phone Number  
Emergency Phone Number (International)  
Emergency Phone Number (US only)  
Safety data sheet issued by  
CAS-No.  
EC/ REACH Number  
Recommended Use

(360) 734-1789  
+1 (352) 323-3500  
1 (800) 535-5053  
TOKU-E USA  
[23313-80-6]  
Not available

An epimer of the polyketide antibiotic  
Tetracycline. In acidic conditions, Tetracycline  
undergoes a reversible epimerization at the fourth  
Carbon producing a mixture of Tetracycline and 4-  
Epitetracycline  
Not for human or animal use

Restrictions on Use

**2. HAZARD(S) IDENTIFICATION**

GHS Classification

Skin irritation (Category 2)  
Eye irritation (Category 2A)  
Reproductive toxicity (Category 2)  
Specific target organ toxicity- single exposure  
(Category 3) (Respiratory system)

GHS Label Elements, Including  
Precautionary statements



Hazard Statements

Signal Word: Warning  
H315: Causes skin irritation  
H319: Causes serious eye irritation  
H335: May cause respiratory irritation  
H361: Suspected of damaging fertility or the  
unborn child

Precautionary Statements

P201: Obtain special instructions before use  
P202: Do not handle until all safety precautions

have been read and understood  
P261: Avoid breathing dust/ fumes/ gas/ mist/  
vapors/ spray  
P264: Wash skin thoroughly after handling  
P271: Use only in a well-ventilated area  
P280: Wear protective gloves/ eye protection/  
face protection  
P302 + P352: IF ON SKIN: Wash with plenty of soap  
and water  
P304 +P340: IF INHALED: Remove victim to fresh  
air and keep at rest in a position comfortable for  
breathing  
P305 + P351 + P338: IF IN EYES: Rinse cautiously  
with water for several minutes. Remove contact  
lenses, if present and easy to do. Continue rinsing  
P308 + P313: IF exposed or concerned: Get  
medical advice/ attention  
P337 + P313: If eye irritation persists: Get medical  
advice/ attention  
P362: Take off contaminated work clothing and  
wash before reuse  
P403 + P233: Store in a well-ventilated place. Keep  
container tightly closed  
P405: Store locked up  
P501: Dispose of contents/ container to an  
approved waste disposal plant  
None

Hazards not otherwise classified (HNOC)  
by GHS

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonym(s)

4-Epitetracycline HCl;  
4-Epitetracycline HCl, EvoPure™

Formula

$C_{22}H_{24}N_2O_8 \cdot HCl$

Molecular Weight

480.90 g/mol

CAS-No.

[23313-80-6]

EC-No.

Not available

Index-No.

Not available

Hazardous components

4-Epitetracycline HCl  
Skin irritation (Category 2)  
Eye irritation (Category 2A)  
Reproductive toxicity (Category 2)  
Specific target organ toxicity- single exposure  
(Category 3) (Respiratory system)

### 4. FIRST-AID MEASURES

General Advice

Consult a physician. Show this Safety Data Sheet to

If Inhaled	the medical provider If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a doctor
In Case of Skin Contact	Wash thoroughly with plenty of soap and water. Consult a doctor
In Case of Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes, consult a doctor
If Swallowed	Never give anything by mouth to an unconscious person. Consult a doctor. Rinse mouth with water. Please see Section 2 and/or Section 11
Most important symptoms and effects, both acute and delayed	
Indication of any immediate medical attention and special treatment needed	No data available

## 5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Water spray, alcohol-resistant foam, dry chemical, carbon dioxide
Special Protective Equipment for Firefighters	Wear self-contained breathing apparatus
Hazardous Combustion Products	Formed under fire conditions: Carbon and Nitrogen oxides and Hydrogen chloride gas

## 6. ACCIDENTAL RELEASE MEASURES

General	Evacuate personnel to safe location
Personal Precautions	Wear respiratory protection. Avoid dust formation and breathing vapors/mist/dust/gas. Ensure adequate ventilation
Environmental Precautions	Prevent spillage, do not let product enter drains
Methods of Containment and Cleanup	Place in suitable, closed containers for licensed disposal. Avoid dust formation

## 7. HANDLING AND STORAGE

Precautions for Safe Handling	Avoid contact with skin and eyes. Provide exhaust ventilation in areas where dust is formed
Precautions for Safe Storage	Keep container tightly closed and in a dry, well-ventilated place. Recommended storage temperature: -20°C. Air, light, and moisture-sensitive
Incompatibilities	None known

## 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Contains no substances with occupational exposure limit values	
PPE: 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)

PPE: Hand Protection	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) Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal techniques to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices, and wash and dry hands
PPE: Eye Protection	Use a face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU)
PPE: Skin and Body Protection	Handle with gloves. Wear protective clothing. Choose body protection according to the amount and concentration of the dangerous substance at the work place. When deemed needed according to the concentration and amount of this product, use a complete body suit

## 9. PHYSICAL/CHEMICAL PROPERTIES

Appearance	Yellow solid
pH	No data available
Melting Point/Freezing Point	178°C
Boiling Point	No data available
Flash Point	No data available
Ignition Temperature	No data available
Autoignition Temperature	No data available
Lower Explosion Limit	No data available
Upper Explosion Limit	No data available
Vapor Pressure	No data available
Density	No data available
Water Solubility	10 mg/mL
Solubility in Other Solvents	DMSO: Soluble Methanol: Soluble
Partition Coefficient: n-octanol/water	No data available
Optical Rotation	No data available
Absorbance (290nm, 5% in H <sub>2</sub> O)	No data available
Water content (Karl Fisher)	No data available

## 10. STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended storage conditions
Possibility of Hazardous Reactions	No data available
Conditions to Avoid	Air, light, moisture

Materials to Avoid  
Hazardous Decomposition Products

Strong oxidizing agents  
Carbon and Nitrogen oxides and Hydrogen chloride gas formed under fire conditions

## 11. TOXICOLOGICAL INFORMATION

Oral LD <sub>50</sub>	No data available
Inhalation LC <sub>50</sub>	No data available
Dermal LD <sub>50</sub>	No data available
Intraperitoneal LD <sub>50</sub>	Rat: 500 mg/kg
Intravenous LD <sub>50</sub>	No data available
Skin Corrosion/Irritation	No data available
Serious Eye Damage/ Eye Irritation	No data available
Respiratory or Skin Sensitization	Prolonged or repeated exposure may cause an allergic response in sensitive persons
Germ Cell Mutagenicity	No data available
Carcinogenicity	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 ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP 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	Suspected human reproductive toxicant. Possible risk of congenital malformation of the fetus May cause respiratory irritation
Specific Target Organ Toxicity: Single Exposure (Globally Harmonized System)	
Specific Target Organ Toxicity: Repeated Exposure (Globally Harmonized System)	No data available
Aspiration Hazard	No data available
Potential Health Effects	See Section 2, Hazard(s) Identification
Signs and Symptoms of Exposure	Stomach irregularities, based on human evidence. May cause phototoxic reactions, gastrointestinal disturbance, yellowing of the teeth, and reduced mineralization. To the best of our knowledge, the chemical, physical, and toxicological properties of this material have not been thoroughly investigated
Synergistic Effects	No data available
Additional Information	RTECS: QJ1898250

## 12. ECOLOGICAL INFORMATION

Toxicity	No data available
Persistence and Degradability	No data available
Bioaccumulative Potential	No data available
Mobility in Soil	No data available
PBT and vPvB Assessment	No data available
Treat as if harmful if released into environment	

### 13. DISPOSAL CONSIDERATIONS

Product	Dispose of product through a licensed disposal company
Contaminated Packaging	Dispose of as unused product

### 14. TRANSPORTATION INFORMATION

DOT (US)	Not Dangerous Goods
IMDG	Not Dangerous Goods
IATA	Not Dangerous Goods

### 15. REGULATORY INFORMATION

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	4-Epitetracycline hydrochloride CAS-No. [23313-80-6] Revision Date: Not available
New Jersey Right to Know Components	4-Epitetracycline hydrochloride CAS-No. [23313-80-6] Revision Date: Not available
California Prop. 65 Components	This product does not contain any chemicals known to the State of California to cause birth defects, cancer, or any other reproductive harm
EU Information	SDS in accordance with REACH 1907/2006 A registration number is not available for this substance or its uses are exempted from registration, the annual tonnage does not require a registration, or the registration is envisaged for a later registration deadline See GHS Information under Section 2, Hazard Identification

### 16. OTHER INFORMATION

Date of last revision: 2015-02-10

The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. TOKU-E Company shall not be held liable for any damage resulting from handling or from contact with the above product. Please see reverse side of invoice or packing slip for additional terms and conditions of sale.