CEFPIROME SULFATE
SAFETY DATA SHEET

1. IDENTIFICATION

Product Identifier	Cefpirome sulfate
Product Number	C014
Distributor Name	TOKU-E Company
Distributor Address	715 W Orchard Dr, Suite 3 Bellingham, WA 98225
Phone Number	(360) 734-1789
Emergency Phone Number (International)	+1 (352) 323-3500
Emergency Phone Number (US only)	1 (800) 535-5053
Safety Data Sheet Issued by	TOKU-E USA
CAS-No.	[98753-19-6]
EC/ REACH Number	Not available
Recommended Use	Fourth-generation cephalosporin antibiotic
Restrictions on Use	Not for human or animal use

2. HAZARD(S) IDENTIFICATION

GHS Classification

Respiratory sensitizer (Category 1)
Skin sensitizer (Category 1)
Reproductive toxicity (Category 2)

GHS Label Elements, Including Precautionary statements

Signal Word: Danger

Hazard Statements

H317: May cause an allergic skin reaction
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
H361: Suspected of damaging 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
P272: Contaminated work clothing should not be allowed out of the workplace
P280: Wear protective gloves/ eye protection/ face protection
P281: Use personal protective equipment as

	required P285: In case of inadequate ventilation, wear respiratory protection P302 + P352: IF ON SKIN: Wash with plenty of soap and water P304+P341: IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing P308+P313: IF exposed or concerned: Get medical advice/attention. P321: Specific treatment (see supplemental first aid instructions) P333 + P313: If skin irritation or rash occurs: Get medical advice/ attention P342 + P311: If experiencing respiratory symptoms: Call a POISON CENTER or doctor/ physician P362: Take off contaminated clothing and wash before reuse P405: Store Locked up P501: Dispose of contents/ container to an approved waste disposal plant
Hazards not otherwise classified (HNOC) by GHS	None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms	HR 810 sulfate; 5H-1-Pyrindinium,1-((7-(((2-amino-4-thiazolyl)(methoxyimino)acetyl)amino)-2-carboxy-8-oxo-5-thia-1-azabicyclo(4.2.0)oct-2-en-3-yl)methyl)-6,7-dihydro-, (6R-(6-alpha,7-beta(Z)))-, sulfate (1:1)
Formula	$C_{22}H_{22}N_6O_5S_2H_2SO_4$
Molecular Weight	612.66 g/mol
CAS-No.	[98753-19-6]
EC No.	Not available
Index-No.	Not available
Hazardous components	Cefpirome sulfate Acute toxicity, Oral (Category 5) Reproductive toxicity (Category 2, Suspected)

4. FIRST-AID MEASURES

General Advice	Consult a physician. Show this Safety Data Sheet to the medical provider
If Inhaled	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 physician
In Case of Eye Contact	Rinse thoroughly with plenty of water for at least 15 minutes
If Swallowed	Never give anything by mouth to an unconscious person. Consult a doctor. Rinse mouth with water.
Most important symptoms and effects, both acute and delayed	Please see Section 2 and/or Section 11
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, Nitrogen, and Sulfur oxides

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 if formed
Precautions for Safe Storage	Keep container tightly closed and in a dry, well-ventilated place. Recommended storage temperature: -20°C
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) 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)
PPE: Hand Protection	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	White or almost-white crystalline powder
pH	(2% in water) 1.3-2.5
Melting Point/Freezing Point	198-202°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	Freely soluble
Solubility in Other Solvents	No data available
Partition Coefficient: n-octanol/water	No data available
Optical Rotation	No data available
Absorbance (290nm, 5% in H_2O)	No data available
Water content (Karl Fisher)	≤4.0%

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended storage conditions
Possibility of Hazardous Reactions	No data available
Conditions to Avoid	No data available
Materials to Avoid	Strong oxidizing agents
Hazardous Decomposition Products	Carbon, Nitrogen, and Sulfur oxides formed under fire conditions

11. TOXICOLOGICAL INFORMATION

Oral LD_{50}	Rat: >8,000 mg/kg Remarks, Behavioral: Altered sleep time (including change in righting reflex). Convulsions or effect on seizure threshold Remarks, Lungs, Thorax, or Respiration: Respiratory depression Mouse: 16,200 mg/kg
Inhalation LC_{50}	No data available
Dermal LD_{50}	No data available
Intraperitoneal TD_{LO}	Rat: 36,000 mg/kg/90D-I Remarks, Kidney, Ureter, Bladder: Changes in bladder weight Remarks, Blood: Changes in serum composition (e.g. TP, bilirubin, cholesterol). Changes in erythrocyte (RBC) count Monkey: 45,000 mg/kg/90D-I Remarks, Kidney, Ureter, Bladder: Other changes in urine composition Remarks, Blood: Changes in serum composition (e.g. TP, bilirubin, cholesterol) Remarks, Nutritional and Gross Metabolic: Weight loss or decreased weight gain Monkey: 75,200 mg/kg/26W-I Remarks, Kidney, Ureter, Bladder: Other changes in urine composition. Changes in bladder weight Remarks, Blood: Changes in erythrocyte (RBC) count
Intraperitoneal LD_{50}	Rat: 5,800 mg/kg Mouse: 3,850 mg/kg
Intravenous LD_{50}	Rat: 1,900 mg/kg Mouse: 2,400 mg/kg
Subcutaneous LD_{50}	Rat: >10,000 mg/kg Remarks, Behavioral: Altered sleep time (including change in righting reflex). Convulsions or effect on seizure threshold Remarks, Lungs, Thorax or Respiration: Respiratory depression
Skin Corrosion/Irritation	No data available
Serious Eye Damage/ Eye Irritation	No data available
Respiratory or Skin Sensitization	β-lactams are a broad class of antibiotics and include penicillins and cephalosporins. Some individuals experience adverse immunological responses or allergic reactions to β-lactam antibiotics. Because of the similarity in structure between penicillins and cephalosporins, those who are allergic to one class of agents may manifest cross-allergenicity when exposed to a member of another class.

	TOKU-E Company assumes this chemical has the potential to induce an allergic reaction in some individuals. To the best of our knowledge, the correlation between this specific material and respiratory or skin sensitization has not been thoroughly investigated.
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 a carcinogen or potential 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	Intraperitoneal TD_{LO} Female Rat, 7-17 days after conception: 8,800 mg/kg Remarks, Effects on Embryo or Fetus: Extra-embryonic structures (e.g. placenta, umbilical cord). Fetotoxicity (except death, e.g. stunted fetus). Physical effects on newborn Intravenous TD_{LO} Female Rat, 7-17 days after conception: 8,800 mg/kg Remarks, Maternal Effects: Other effects Remarks, Effects on Embryo or Fetus: Fetotoxicity (except death, e.g. stunted fetus)
Specific Target Organ Toxicity: Single Exposure (Globally Harmonized System)	No data available
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	No data available
Synergistic Effects	No data available
Additional Information	RTECS: UW8970000

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

Harmful to aquatic life. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal

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	No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 311/312
Massachusetts Right to Know Components	No components are subject to the Massachusetts Right to Know Act
Pennsylvania Right to Know Components	No components are subject to the Pennsylvania Right to Know Act
New Jersey Right to Know Components	No components are subject to the New Jersey Right to Know Act
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: 2016-02-19

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.