1. IDENTIFICATION
   Product Identifier: Ceftriaxone free acid
   Product Number: CO74
   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.: [73384-59-5]
   EC/REACH Number: [277-405-6]
   Recommended Use: Third-generation cephalosporin antibiotic
   Restrictions on Use: Not for human or animal use

2. HAZARD(S) IDENTIFICATION
   GHS Classification:
   - Skin irritation (Category 2)
   - Eye irritation (Category 2)
   - Respiratory sensitization (Category 1)
   - Skin sensitization (Category 1)
   - Specific target organ toxicity – single exposure
     (Respiratory system) (Category 3)

   GHS Label Elements, Including Precautionary statements
   - Signal Word: Danger

   Hazard Statements
   - H315: Causes skin irritation
   - H317: May cause an allergic skin reaction
   - H319: Causes serious eye irritation
   - H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
   - H335: May cause respiratory irritation

   Precautionary Statements
   - P261: Avoid breathing dust/fume/gas/mist/vapours/spray.
   - P264: Wash hands/skin thoroughly after handling.
   - P271: Use only outdoors or in a well-ventilated...
area.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P285: In case of inadequate ventilation wear respiratory 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
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do, continue rinsing.
P312: Call a POISON CENTER or doctor/physician if you feel unwell.
P321: Specific treatment, see label
P332+P313: IF SKIN irritation occurs: Get medical advice/attention.
P337: If eye irritation persists: 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
P403+P233: Store in a well-ventilated place. Keep container tightly closed
P405: Store Locked up
P501: Dispose of contents/container to proper waste container

Hazards not otherwise classified (HNOC) by GHS
None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms
Ceftriaxone, free acid;
Ceftriaxone

Formula
C₁₈H₁₈N₆O₇S₃

Molecular Weight
554.58 g/mol

CAS-No.
[73384-59-5]

EC No.
[277-405-6]

Index-No.
Not available

Hazardous components
Ceftriaxone free acid
Skin irritation (Category 2)
Eye irritation (Category 2A)
Respiratory sensitization (Category 1)
Skin sensitization (Category 1)
Specific target organ toxicity – single exposure (Respiratory system) (Category 3)
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 yellowish-white crystalline powder
- **pH**: No data available
- **Melting Point/Freezing Point**: No data available
- **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**: No data available
- **Solubility in Other Solvents**: No data available
- **Partition Coefficient: n-octanol/water**: No data available
- **Optical Rotation**: No data available
- **Absorbance (290nm, 5% in H₂O)**: 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
<table>
<thead>
<tr>
<th>Conditions to Avoid</th>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Materials to Avoid</td>
<td>Strong oxidizing agents</td>
</tr>
<tr>
<td>Hazardous Decomposition Products</td>
<td>Carbon, Nitrogen, and Sulfur oxides formed under fire conditions</td>
</tr>
</tbody>
</table>

### 11. TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Oral LD$_{50}$</th>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inhalation LC$_{50}$</td>
<td>No data available</td>
</tr>
<tr>
<td>Dermal LD$_{50}$</td>
<td>No data available</td>
</tr>
<tr>
<td>Intraperitoneal TD$_{LO}$</td>
<td>No data available</td>
</tr>
<tr>
<td>Intraperitoneal LD$_{50}$</td>
<td>No data available</td>
</tr>
<tr>
<td>Intravenous LD$_{50}$</td>
<td>No data available</td>
</tr>
<tr>
<td>Subcutaneous LD$_{50}$</td>
<td>No data available</td>
</tr>
<tr>
<td>Skin Corrosion/Irritation</td>
<td>No data available</td>
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<tr>
<td>Respiratory or Skin Sensitization</td>
<td>No data available</td>
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</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th>Germ Cell Mutagenicity</th>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carcinogenicity</td>
<td></td>
</tr>
<tr>
<td>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</td>
<td></td>
</tr>
<tr>
<td>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</td>
<td></td>
</tr>
<tr>
<td>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</td>
<td></td>
</tr>
<tr>
<td>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</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Reproductive Toxicity</th>
<th>No data available</th>
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</thead>
<tbody>
<tr>
<td>Specific Target Organ Toxicity: Single Exposure (Globally Harmonized System)</td>
<td>No data available</td>
</tr>
</tbody>
</table>
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: Not available

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 Ceftriaxone free acid
CAS-No. [73384-59-5]
Revision Date: Not available
New Jersey Right to Know Components Ceftriaxone free acid
CAS-No. [73384-59-5]
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
EC Number [277-405-6]
CAS-No. [73384-59-5]
Name: ceftriaxone
Envisaged Registration Deadline: 30/11/2010
See GHS Information under Section 2, Hazard Identification

16. OTHER INFORMATION
Date of last revision: 2016-03-17

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.