1. IDENTIFICATION
   Product Identifier                  Oxytetracycline dihydrate
   Product Number                      O003
   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) 353-3500
   Emergency Phone Number (US Only)    1 (800) 535-5053
   Safety Data Sheet Issued by          TOKU-E USA
   CAS-Number                          [6153-64-6]
   EC/ REACH Number                    [612-168-8]
   Recommended Use                     Commonly used in clinical in vitro microbiological
                                           antimicrobial susceptibility tests
   Restrictions of Use                 Not for human or animal use

2. HAZARD(S) IDENTIFICATION
   GHS Classification                  Not classified. Toxicology information unavailable
   GHS Label Elements, Including        None
   Hazard Statements                   None
   Precautionary Statements            None
   Hazards not otherwise classified (HNOC) by GHS                      No Data Available

3. COMPOSITION/INFORMATION ON INGREDIENTS
   Synonym(s)                          5-Hydroxytetracycline Dihydrate
   Formula                             C_{22}H_{24}N_{2}O_{9} \cdot 2H_{2}O
   Molecular Weight                    496.46
   CAS-Number                          [6153-64-6]
   EC/ REACH Number                    [612-168-8]
   Hazardous Components                No Data Available

4. FIRST-AID MEASURES
   General Advice                      Consult a doctor/physician if exposed - additional medical care may be required. Show this Safety Data Sheet to the medical provider.
   If Inhaled                          If inhaled, move to fresh air. If not breathing, give artificial respiration and immediately call local emergency telephone number.
   In Case of Skin Contact            Wash skin thoroughly with soap and water.
   In Case of Eye Contact             Flush eye with water. After initial flush, remove any contact lenses and continue flushing for at least 15 minutes.
   If Swallowed                       Rinse mouth with water. Immediately call a doctor,
physician, or poison control center. Never give anything by mouth to an unconscious person.

Specific Treatment

Please see Section 2 precautionary statements and/or Section 11.

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, carbon monoxide, hydrogen peroxide

6. ACCIDENTAL RELEASE MEASURES

General

Evacuate personnel to a safe location. Use appropriate personal protective equipment while in contact with product. Avoid dust formation. Ensure adequate ventilation.

Personal Precautions

Prevent contamination of skin, eyes and clothing with appropriate protective equipment (Section 8). Wear respiratory protection.

Environmental Precautions

Recover waste, if possible, and place in suitable closed container for licensed disposal. Prevent spillage - do not let product enter drains.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Wear appropriate protective clothing/gear to prevent contact with skin and eyes. Provide exhaust ventilation or respiratory protection in areas where dust is formed.

Precautions for Safe Storage

Store in a tightly closed container. Protect from humidity.

Recommended storage temperature: 2-8°C

Incompatibilities

No Data Available

8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

Contains no substance/substances with occupational exposure limit values

OSHA Permissible Exposure Limits

No Data Available

NIOSH Recommended Exposure Limits

No Data Available

ACGIH Threshold Limit Values

No Data Available

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 workplace. When deemed needed according to the concentration and amount of this product, use a complete body suit.

9. **PHYSICAL/CHEMICAL PROPERTIES**

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Yellow crystalline powder</td>
</tr>
<tr>
<td><strong>Lower Flammability/Explosion Limit</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Upper Flammability/Explosion Limit</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Odor</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Vapor Pressure</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Odor Threshold</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Vapor Density</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>pH</strong></td>
<td>4.5 - 7.0</td>
</tr>
<tr>
<td><strong>Relative Density</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Melting Point/Freezing Point</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Water Solubility</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Solubility in Other Solvents</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Boiling Point and Range</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Flash Point</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Evaporation rate</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Flammability (solid, gas)</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Partition Coefficient: n-octanol/water</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Ignition Temperature</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Auto-Ignition Temperature</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Decomposition Temperature</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Viscosity</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Density</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Optical Rotation</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Absorbance (290nm, 5% in H₂O)</strong></td>
<td>No Data Available</td>
</tr>
<tr>
<td><strong>Water Content (Loss on Drying)</strong></td>
<td>6.0 – 9.0%</td>
</tr>
</tbody>
</table>

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: Formed under fire conditions: carbon and nitrogen oxides, carbon monoxide, hydrogen peroxide

11. TOXICOLOGICAL INFORMATION

Oral LD$_{50}$: No Data Available
Inhalation LC$_{50}$: No Data Available
Dermal LD$_{50}$: No Data Available
Intraperitoneal LD$_{50}$: No Data Available
Intravenous LD$_{50}$: No Data Available
Subcutaneous LD$_{50}$: No Data Available
Skin Corrosion/Irritation: No Data Available
Serious Eye Damage/ Eye Irritation: No Data Available
Respiratory or Skin Sensitization: No Data Available
Germ Cell Mutagenicity: No Data Available
Carcinogenicity: This substance has not been identified as a potential carcinogen within the National Toxicology Program Report on Carcinogens or within the International Agency for Research on Cancer Monograph.

Reproductive Toxicity: No Data Available
Specific Target Organ Toxicity: Single Exposure (GHS): No Data Available
Specific Target Organ Toxicity: Repeated Exposure (GHS): No Data Available
Aspiration Hazard: No Data Available
Potential Health Effects: See Section 2, Hazard(s) Identification
Signs and Symptoms of Exposure: 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: No Data Available

12. ECOLOGICAL INFORMATION

Toxicity: No Data Available
Persistence and Degradability: No Data Available
Bio accumulative Potential: No Data Available
Mobility in Soil: No Data Available
PBT and vPvB Assessment: No Data Available

In the absence of complete ecological information, treat product as environmentally hazardous. Use proper storage, handling, and disposal to prevent unintentional release into the environment.

13. DISPOSAL CONCENTRATIONS

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

14. TRANSPORTATION INFORMATION
DOT (US) Not a Dangerous Good
IMDG Not a Dangerous Good
IATA Not a Dangerous Good

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 No chemicals in this material are subject to the reporting requirements of 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 No components are subject to the Massachusetts Right to Know Act
Pennsylvania Right to Know No components are subject to the Pennsylvania Right to Know Act
New Jersey Right to Know No components are subject to the New Jersey Right to Know Act
California Prop. 65 Components No
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/ REACH Number [612-168-8]
CAS-Number [6153-64-6]
Name: Oxytetracycline dihydrate
Envisaged Registration Deadline: 31/05/2018
See GHS Information under Section 2, Hazard Identification

16. OTHER INFORMATION
Revision Date: 2017-04-20

HMIS Rating
Health Hazard 0
Chronic Health Hazard N
Flammability 0
Physical Hazard 0

NFPA Rating Health Hazard 0
This safety data sheet represents TOKU-E Company’s current understanding of the hazards associated with this product. The stated hazard information is based on existing experimental data and is not guaranteed to be all-inclusive. TOKU-E Company strives to maintain current and comprehensive safety information but recognizes that this safety data sheet may require revision as new information becomes available. TOKU-E Company shall not be held liable for damage or injury resulting from contact, handling, or storage of this product.