1. **IDENTIFICATION**

   - **Product Identifier**: Nitrofurantoin
   - **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 USA
   - **CAS-No.**: [67-20-9]
   - **EC/ REACH Number**: [200-646-5]
   - **Recommended Use**: Broad spectrum antibiotic frequently used to treat bacterial infections of the urinary tract
   - **Restrictions on Use**: Not for human or animal use

2. **HAZARD(S) IDENTIFICATION**

   - **GHS Classification**: Acute toxicity, Oral (Category 4), H302 Respiratory sensitization (Category 1), H334 Skin sensitization (Category 1), H317

   - **GHS Label Elements, Including Precautionary statements**:
     - **Signal word**: Danger
Hazard Statements
H302: Harmful if swallowed
H317: May cause an allergic skin reaction
H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled

Precautionary Statements
P261: Avoid breathing dust/fume/gas/mist/vapors/spray
P264: Wash skin thoroughly after handling
P270: Do not eat, drink or smoke when using this product
P272: Contaminated work clothing should not be allowed out of the workplace
P280: Wear protective gloves
P285: In case of inadequate ventilation wear respiratory protection
P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
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
P321: Specific treatment
P330: Rinse mouth
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
P363: Wash contaminated clothing before reuse
P501: Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC) by GHS
None

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonym(s)
N-(5-Nitro-2-furfurylidene)-1-aminohydantoin, Furadoxyl, Nitrofurantoine

Formula
C₈H₆N₄O₅

Molecular Weight
238.16 g/mol

CAS-No.
[67-20-9]
EC No. [200-646-5]
Index-No. Not available
Hazardous components Nitrofurantoin
Acute Tox. 4; Resp. Sens. 1; Skin Sens. 1; H302, H317, H334
90-100%

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 as a precaution
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 and Nitrogen 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
Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. 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: Ambient

Light 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) 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Yellow crystalline powder</td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting Point/Freezing Point</td>
<td>270-272 °C</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available</td>
</tr>
<tr>
<td>Ignition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Autoignition Temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower Explosion Limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper Explosion Limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>79.5 μg/mL</td>
</tr>
<tr>
<td>Solubility in Other Solvents</td>
<td>Dimethylformamide: Soluble</td>
</tr>
<tr>
<td>Partition Coefficient: n-octanol/water</td>
<td>No data available</td>
</tr>
<tr>
<td>Optical Rotation</td>
<td>No data available</td>
</tr>
<tr>
<td>Absorbance (290nm, 5% in H₂O)</td>
<td>No data available</td>
</tr>
<tr>
<td>Water content (Loss on drying)</td>
<td>No data available</td>
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</table>

10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Stability</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chemical Stability</td>
<td>Stable under recommended storage conditions</td>
</tr>
</tbody>
</table>
Possibility of Hazardous Reactions: No data available
Conditions to Avoid: No data available
Materials to Avoid: Strong oxidizing agents
Hazardous Decomposition Products: Carbon and Nitrogen oxide

11. TOXICOLOGICAL INFORMATION

Oral LD$_{50}$: Rat: 604 mg/kg
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:
- IARC: 3 - Group 3: Not classifiable as to its carcinogenicity to humans (Nitrofurantoin)
- 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: No data available
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
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: MU2800000
Stomach - Irregularities - Based on Human Evidence

#### 12. ECOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Aspect</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity</td>
<td>No data available</td>
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<tr>
<td>Persistence and Degradability</td>
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</tr>
<tr>
<td>Bioaccumulative Potential</td>
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</tr>
<tr>
<td>Mobility in Soil</td>
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</tr>
<tr>
<td>PBT and vPvB Assessment</td>
<td>No data available</td>
</tr>
</tbody>
</table>

#### 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
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.

Acute Health Hazard, Chronic Health Hazard

No components are subject to the Massachusetts Right to Know Act

Nitrofurantoin
CAS-No. [67-20-9]
Revision Date: 2009-07-17

Nitrofurantoin
CAS-No. [67-20-9]
Revision Date: 2009-07-17

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm
Nitrofurantoin
CAS-No. [67-20-9]
Revision Date: 2007-09-28

SDS in accordance with REACH 1907/2006
Nitrofurantoin
CAS-No. [67-20-9]
EC-No. [200-646-5]
Envisaged registration deadline: 30/11/2010

Date of last revision: 2015-08-22

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.