SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier
Product Identifier CATACILLIN disodium w/ Clavulanate potassium (15:1) (Timentin)
Product Number T020
CAS Number [116876-37-0]
EC Number Not Available

1.2 Relevant identified uses of the substance or mixture and uses advised against
Recommended Use Research chemical, for in vitro use only.
Restrictions of Use Not for human or animal use

1.3 Details of the supplier of the safety data sheet
Distributor Name TOKU-E Company
Distributor Address 715 W Orchard Dr. Suite 3
Bellingham, WA 98225
Phone Number (360)734-1789
E-mail Address info@toku-e.com
Safety Data Sheet Issued by TOKU-E Company (USA)

1.4 Emergency telephone number
Emergency Phone Number (International) +1 (352) 353-3500
Emergency Phone Number (US Only) 1 (800) 535-5053

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture
GHS Classification Flammable solid (Category 2)
Self-heating substance and mixture (Category 2)
Skin sensitization (Category 1)
Respiratory sensitization (Category 1)
Specific target organ toxicity, single exposure (Category 3)
2.2 Label elements, including precautionary statements

GHS Label Elements:

Sign Word  Danger

Hazard Statements
H228  Flammable solid
H252  Self-heating in large quantities; may catch fire
H317  May cause an allergic skin reaction
H334  May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335  May cause respiratory irritation

Precautionary Statements
P210  Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P235  Keep cool.
P240  Ground/bond container and receiving equipment.
P241  Use explosion-proof electrical/ventilating/lighting equipment.
P261  Avoid breathing dust/fumes/gas/mist/vapors/spray.
P271  Use only outdoors or in a well-ventilated area
P272  Contaminated work clothing should not be allowed out of the workplace.
P280  Wear protective gloves/protective clothing/eye protection/face protection.
P284  In case of inadequate ventilation wear respiratory protection
P302+P352  IF ON SKIN: Wash with plenty of water/soap
P304+P340  IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312  Call a POISON CENTER/doctor if you feel unwell.
P321  Specific treatment, see applicable response statements on this label
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+P364  Take off contaminated clothing and wash it before reuse.
P370+P378  In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction
P403+P233  Store in a well-ventilated place. Keep container tightly closed
P405  Store locked up.
P407  Maintain air gap between stacks or pallets
P420  Store separately
P501  Dispose of contents/container in accordance with governmental regulation

2.3 Other hazards which do not result in classification
Hazard not otherwise classified (HNOC) by GHS  No Data Available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures
Synonyms
SECTION 4: FIRST-AID MEASURES

4.1 Description of 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.

4.2 Most important symptoms/effects, acute and delayed
Specific Treatment
Please see Section 2 and Section 11.

4.3 Indication of immediate medical attention and special treatment needed, if necessary
No Data Available

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing media
Suitable Extinguishing Media
Water spray, alcohol-resistant foam, dry chemical, carbon dioxide

5.2 Special hazards arising from the substance or mixture
Hazardous Combustion Products
Formed under fire conditions: carbon and nitrogen oxides, carbon monoxide, sulfur dioxide

5.3 Advice for firefighters
Special Protective Equipment for Firefighters
Wear self-contained breathing apparatus

SECTION 6: ACCIDENTAL RELEASE MEASURES
6.1 Personal precautions, protective equipment and emergency procedures
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.

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

6.3 Methods and materials for containment and cleaning up
The recommended course of action is to treat any incident that involves the spill/release of a chemical substance as if it were hazardous in nature until the appropriate personnel have been consulted. Wear personal protective equipment as necessary. If accessible, use a spill kit. For powder spills, avoid generating dust during cleanup.

6.4 Reference to other sections
Refer to section 8 for exposure control.
Refer to section 13 for disposal information.

SECTION 7: HANDLING AND STORAGE

7.1 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.

7.2 Conditions for safe storage, including any incompatibilities
Store in a tightly closed container. Protect from humidity.
Recommended storage temperature < 30°C

Incompatibilities
No Data Available

7.3 Specific end use(s)
Refer to section 1.2

SECTION 8: EXPOSURE CONTROLS/ PERSONAL PROTECTION

8.1 Control parameters
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
8.2 Exposure controls

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

SECTION 9: PHYSICAL/CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

**Appearance**
- White or off-white to yellowish powder

**Odor**
- No Data Available

**Odor Threshold**
- No Data Available

**pH**
- 5.5 - 7.5

**Melting Point/Freezing Point**
- No Data Available

**Initial Boiling Point and Range**
- No Data Available

**Flash Point**
- No Data Available

**Evaporation rate**
- No Data Available

**Flammability (solid, gas)**
- Clavulanate potassium is a Category 2 flammable solid. The flammability of this mixture has not been evaluated.

**Upper Flammability/Explosion Limit**
- No Data Available

**Lower Flammability/Explosion Limit**
- No Data Available

**Vapor Pressure**
- No Data Available

**Vapor Density**
- No Data Available

**Relative Density**
- No Data Available

**Water Solubility**
- No Data Available

**Solubility in Other Solvents**
- No Data Available

TOKU-E Company
Safety Data Sheet
Page 5 of 9
Partition Coefficient: n-octanol/water  No Data Available
Auto-Ignition Temperature  No Data Available
Decomposition Temperature  No Data Available
Viscosity  No Data Available
Explosive Properties  No Data Available
Oxidizing Properties  No Data Available
Optical Rotation  No Data Available
Absorbance (290nm, 5% in H₂O)  No Data Available
Water Content (Loss on Drying)  ≤ 3.7%

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity  No Data Available
10.2 Chemical stability  Stable under recommended storage conditions
10.3 Possibility of hazardous reactions  No Data Available
10.4 Conditions to avoid  No Data Available
10.5 Incompatible materials  Strong oxidizing agents
10.6 Hazardous decomposition products  Formed under fire conditions: carbon and nitrogen oxides, carbon monoxide, sulfur dioxide

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects
Oral LD₅₀  Acute Toxicity Estimate (ATE) > 5,000 mg/kg
Inhalation LC₅₀  No Data Available
Dermal LD₅₀  No Data Available
Intraperitoneal LD₅₀  No Data Available
Intravenous LD₅₀  No Data Available
Subcutaneous LD₅₀  No Data Available
Skin Corrosion/Irritation  No Data Available
Serious Eye Damage/ Eye Irritation  No Data Available
Respiratory or Skin Sensitization  Ticarcillin disodium is a Category 1 respiratory sensitizer and is present within this mixture at a classifiable concentration. Clavulanate potassium is a Category 1 skin and respiratory sensitizer and is present within this mixture at a classifiable concentration.
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)
Ticarcillin disodium is a Category 3 specific target organ toxicant (respiratory tract) and is present within this mixture at a classifiable concentration.

Specific Target Organ Toxicity: Repeated Exposure (GHS)
No Data Available

Aspiration Hazard
No Data Available

Potential Heath Effects
See Section 2, Hazard(s) Identification

Signs and Symptoms of Exposure
No Data Available

Synergistic Effects
No Data Available

Additional Information
ß-Lactam
ß-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.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity
No Data Available

12.2 Persistence and degradability
No Data Available

12.3 Bioaccumulative potential
No Data Available

12.4 Mobility in Soil
No Data Available

12.5 PBT and vPvB assessment
No Data Available

12.6 Other adverse effects
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.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Dispose unused/spoiled product in accordance with local and federal regulations.
Sewering is not an acceptable form of waste disposal.
Product
Dispose of product through a licensed disposal company.
Contaminated Packaging  Dispose of as unused product.

**SECTION 14: TRANSPORTATION INFORMATION**

**DOT (US)**
- UN Number: UN1325 Class 4.1, Packing group III
- Proper shipping name: Flammable solid, organic, n.o.s. (Ticarcillin disodium w/ Clavulanate potassium)
- Poison inhalation hazard: No

**IMDG**
- UN Number: UN1325 Class 4.1, Packing group III
- Proper shipping name: FLAMMABL SOLID, ORGANIC, N.O.S. (TICARCILLIN DISODIUM W/ CLAVULANATE POTASSIUM)
- EMS-no. F-A, S-G
- Marine pollutant: No

**IATA**
- UN Number: UN1325 Class 4.1, Packing group III
- Proper shipping name: Flammable solid, organic, n.o.s. (Ticarcillin disodium w/ Clavulanate potassium)

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Section 2/3: Hazards identification/labelling in accordance with OSHA 29 CFR 1910.1200
Section 2/3: Hazards identification/labelling in accordance with Regulation (EC) 1272/2008
SDS in accordance with Regulation (EC) 1907/2006

**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

**Ticarcillin disodium** SDS in accordance with Regulation (EC) 1907/2006
Identification, classification and labelling in accordance with Regulation (EC) 1272/2008
EC Number Not Available
CAS Number [4697-14-7]
Envisaged Registration Deadline: 30/11/2010

**Clavulanate potassium** SDS in accordance with Regulation (EC) 1907/2006
Identification, classification and labelling in accordance with Regulation (EC) 1272/2008
EC Number [262-640-9]
CAS Number [61177-45-5]
Envisaged Registration Deadline: 30/11/2010

15.2 Chemical safety assessment

EU Information
For this product a chemical safety assessment was not carried out

16. OTHER INFORMATION

Revision Date: 2017-01-13

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.