1.1 Product identifier
Product Identifier: Meropenem with sodium carbonate
Product Number: M028
CAS Number: Meropenem [96036-03-2]
CAS Number: Sodium carbonate [497-19-8]
EC Number: Meropenem No Data Available
EC Number: Sodium carbonate [207-838-8]

1.2 Relevant identified uses of the substance or mixture and uses advised against
Recommended Use: Research chemical, for in vitro use only. Meropenem with sodium carbonate is a salt form of meropenem; a β-lactam antibiotic in the carbapenem class.
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: Skin irritation (Category 2)
(Please refer to Section 16 for regulatory information)

2.2 Label elements, including precautionary statements
GHS Label Elements:
Signal Word: Warning

Hazard Statements
H315 Causes skin irritation
H319 Causes serious eye irritation

Precautionary Statements
P264 Wash hands/skin thoroughly after handling.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352 IF ON SKIN: Wash with plenty of water/soap
P321 Specific treatment, see applicable response statements on this label
P332+P313 IF SKIN irritation occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P305+P351+ IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313 IF eye irritation persists: Get medical advice/attention.

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

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixtures

**Synonym(s)**
- Meropenem
- Meropenemum, Merrem, Antibiotic SM 7338
- Sodium carbonate
  - Calcined soda, Light Ash, Natrium Carbonicum
  - Calcinatum, Soda Ash, Washing soda

<table>
<thead>
<tr>
<th>Component</th>
<th>Concentration</th>
<th>Formula</th>
<th>CAS Number</th>
<th>EC Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meropenem</td>
<td>78.0%</td>
<td>C₁₇H₂₅N₃O₅S</td>
<td>[96036-03-2]</td>
<td>Not Available</td>
</tr>
<tr>
<td>Sodium carbonate</td>
<td>7.3 -10.9%</td>
<td>Na₂CO₃</td>
<td>[497-19-8]</td>
<td>[207-838-8]</td>
</tr>
</tbody>
</table>

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: 2-8°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 workplace. 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>White or almost white powder</td>
</tr>
<tr>
<td>Odor</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No Data Available</td>
</tr>
<tr>
<td>pH</td>
<td>7.3 - 8.3</td>
</tr>
<tr>
<td>Melting Point/Freezing Point</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Initial Boiling Point and Range</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Flash Point</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Upper Flammability/Explosion Limit</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Lower Flammability/Explosion Limit</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Relative Density</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Water Solubility</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Solubility in Other Solvents</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Partition Coefficient: n-octanol/water</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Auto-Ignition Temperature</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Explosive Properties</td>
<td>No Data Available</td>
</tr>
<tr>
<td>Oxidizing Properties</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>9.0% - 12.0%</td>
</tr>
</tbody>
</table>

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    

<table>
<thead>
<tr>
<th>Endpoint</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral LD₅₀</td>
<td>Acute Toxicity Estimate (ATE) &gt; 5,000 mg/kg</td>
</tr>
<tr>
<td>Inhalation LC₅₀</td>
<td>No Data Available</td>
</tr>
</tbody>
</table>
Dermal LD<sub>50</sub>  
Intraperitoneal LD<sub>50</sub>  
Intravenous LD<sub>50</sub>  
Subcutaneous LD<sub>50</sub>  
Skin Corrosion/Irritation  
Serious Eye Damage/ Eye Irritation  
Respiratory or Skin Sensitization  
Germ Cell Mutagenicity  
Carcinogenicity  
Reproductive Toxicity  
Specific Target Organ Toxicity: Single Exposure (GHS)  
Specific Target Organ Toxicity: Repeated Exposure (GHS)  
Aspiration Hazard  
Potential Health Effects  
Signs and Symptoms of Exposure  
Synergistic Effects  
Additional Information  

Meropenem is a Category 2 skin irritant and present within this mixture at a classifiable concentration. 
Meropenem and Sodium carbonate are Category 2 eye irritants and present within this mixture at a classifiable concentration. 
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. 

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 ß-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  
12.2 Persistence and degradability  
12.3 Bioaccumulative potential  
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)  
Not a Dangerous Good
IMDG  
Not a Dangerous Good
IATA  
Not a Dangerous Good

SECTION 15: REGULATORY INFORMATION

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 **Sodium Carbonate** SDS in accordance with Regulation (EC) 1907/2006
Identification, classification and labelling in
accordance with Regulation (EC) 1272/2008
EC Number [207-838-8]
CAS Number [497-19-8]
Name: Meropenem with sodium carbonate
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.