1. IDENTIFICATION

Product Identifier: Cetrimonium bromide
Product Number: C063
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: [57-09-0]
EC/REACH Number: [200-311-3]
Recommended Use: Laboratory extraction of DNA from plants
Restrictions of Use: Not for human or animal use

2. HAZARD(S) IDENTIFICATION

GHS Classification:
- Acute toxicity, oral (Category 4)
- Serious eye damage/eye irritation (Category 1)
- Hazardous to the aquatic environment, acute hazard (Category 1)

GHS Label Elements, Including:
- H302 Harmful if swallowed
- H318 Causes serious eye damage
- H400 Very toxic to aquatic life

Signal Word: Danger

Precautionary Statements:
- P264 Wash hands/skin thoroughly after handling.
- P270 Do not eat, drink, or smoke when using this product.
- P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician IF you feel
- P330 Rinse mouth
- P501 Dispose of contents/container in accordance with governmental regulation
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P305 + P351+ IF IN EYES: Rinse cautiously with water for several minutes. Remove contact
- P310 Immediately call a POISON CENTER/doctor.
- P273 Avoid release to the environment.
- P391 Collect spillage.

Hazards not otherwise classified (HNOC) by GHS: No Data Available
3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonym(s)  
Cetyltrimethylammonium bromide, CTAB, Hexadecyltrimethylammonium bromide

Formula  
C_{19}H_{42}BrN

Molecular Weight  
364.45

CAS-Number  
[57-09-0]

EC/ REACH Number  
[200-311-3]

Hazardous Components  
Cetrimonium bromide  
Acute toxicity, oral (Category 4)  
Serious eye damage/eye irritation (Category 1)  
Hazardous to the aquatic environment, acute hazard (Category 1)

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: <30°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 work place. When deemed needed according to the concentration and amount of this product, use a complete body suit

9. **PHYSICAL/CHEMICAL PROPERTIES**
   
   **Appearance**
   Powder

   **Lower Flammability/Explosion Limit**
   No Data Available
Upper Flammability/Explosion Limit: No Data Available
Odor: No Data Available
Vapor Pressure: No Data Available
Odor Threshold: No Data Available
Vapor Density: No Data Available
pH: No Data Available
Relative Density: No Data Available
Melting Point/Freezing Point: No Data Available
Water Solubility: No Data Available
Solubility in Other Solvents: No Data Available
Boiling Point and Range: No Data Available
Flash Point: No Data Available
Evaporation rate: No Data Available
Flammability (solid, gas): No Data Available
Partition Coefficient: n-octanol/water: No Data Available
Ignition Temperature: No Data Available
Auto-Ignition Temperature: No Data Available
Decomposition Temperature: No Data Available
Viscosity: No Data Available
Density: No Data Available
Optical Rotation: No Data Available
Absorbance (290nm, 5% in H_2O): No Data Available
Water Content (Loss on Drying): No Data Available

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}: Rat: 420 mg/kg
Inhalation LC_{50}: No Data Available
Dermal LD_{50}: No Data Available
Intraperitoneal LD_{50}: Mouse: 106 mg/kg
Intravenous LD_{50}: Rat: 44 mg/kg
Subcutaneous LD_{50}: Rabbit: 125 mg/kg
Skin Corrosion/Irritation: Mouse: 50 mg/1H
Serious Eye Damage/ Eye Irritation: Rabbit: 450 mg, severe
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
Reproductive Toxicity

Mouse: Female, TDLo 10500 ug/kg, intraperitoneal 8 days post conception

Toxic Effects
Reproductive - Specific Developmental Abnormalities - musculoskeletal system

Mouse: Female, TDLo 35 mg/kg, intraperitoneal 8 days post conception

Toxic Effects
Reproductive - Fertility - post-implantation mortality

Mouse: Female, TDLo 10500 ug/kg, intraperitoneal 10 days post conception

Toxic Effects
Reproductive - Specific Developmental Abnormalities - craniofacial

Mouse: Female, TDLo 35 mg/kg, intraperitoneal 12 days post conception

Toxic Effects
Reproductive - Effects on the embryo or fetus - fetotoxicity

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 Heath 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 LC_{50} - Danio rerio, 0.3 mg/L 96h
Persistence and Degradability Biodegradable
Bio accumulative Potential Due to the distribution coefficient n-octanol/water, accumulation in organisms is not expected
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 company.
Contaminated Packaging Dispose of as unused product.

14. TRANSPORTATION INFORMATION

DOT (US) Not a Dangerous Good
IMDG UN Number: 3077 Class 9, Packing group III Proper shipping name: Environmentally hazardous
substance, solid, n.o.s. (Cetrimonium bromide)
EMS-no. F-A, S-F
Marine pollutant: Yes

IATA
UN Number: 3077 Class 9, Packing group III
Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Cetrimonium bromide)

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 [200-311-3]
CAS-Number [57-09-0]
Name: Cetrimonium bromide
Envisaged Registration Deadline: 30/11/2010
See GHS Information under Section 2, Hazard Identification

16. OTHER INFORMATION
Revision Date: 2016-10-13

HMIS Rating
Health Hazard 2
Chronic Health Hazard N
Flammability 1
Physical Hazard 0

NFPA Rating
Health Hazard 2
Fire Hazard 1
Reactivity 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.