



# SAFETY DATA SHEET

Issue date 13 February 2023

Version 1

## 1. IDENTIFICATION

<b>Product name</b>	5M Betaine
<b>Product No</b>	EBET
<b>Recommended use</b>	Nucleic acid amplification
<b>Supplier Address</b>	DNA Polymerase Technology Inc. 1508 South Grand Blvd. Saint Louis MO 63014 USA
<b>Phone Number</b>	314 771 5566
<b>Fax</b>	314 771 5581
<b>E-mail address</b>	enzyme@klentaq.com
<b>Emergency Phone</b>	512 289 6324

## 2. HAZARDS IDENTIFICATION

**Classification** Not a hazardous substance or mixture

**GHS Label elements** Not a hazardous substance or mixture

### Hazard Statement

The product contains no substances which at their given concentration, are known to be hazardous to health.

**Hazards not otherwise classified (HNOC)** None

### 3.COMPOSITION/INFORMATION ON INGREDIENTS

#### Mixture

Ingredient	% by weight	CAS #
Betaine (CH <sub>3</sub> ) <sub>3</sub> N <sup>+</sup> CH <sub>2</sub> COO <sup>-</sup>	59	107-43-7
Tris HCl NH <sub>2</sub> C(CH <sub>2</sub> OH) <sub>3</sub> · HCl Tris(hydroxymethyl)aminomethane hydrochloride	<1	1185-53-1

### 4.FIRST AID MEASURES

#### First Aid Instructions

- Inhalation** Remove to fresh air.
- Skin contact** Wash skin with soap and water.
- Eye contact** Flush eyes with water.
- Ingestion** Rinse mouth with water.

#### Most important symptoms and effects, both acute and delayed

No information available.

#### Recommendations for medical care

Treat symptomatically.

### 5.FIRE-FIGHTING MEASURES

#### Suitable extinguishing equipment

Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide, as indicated by local circumstances and the surrounding environment.

#### Specific hazards arising from the chemical

Carbon oxides  
Nitrogen oxides (NO<sub>x</sub>)  
Combustible.  
Development of hazardous combustion gases or vapors possible in the event of fire.

#### Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus and full protective gear.

### 6.ACCIDENTAL RELEASE MEASURES

#### Personal precautions and emergency procedures

Use of standard laboratory Personal Protective Equipment (PPE) such as a lab coat, gloves, and safety glasses is recommended. No evacuation, expert consultation, or additional PPE is required for dealing with accidental release.

### Environmental precautions

Do not flush this product down the drain.

### Containment and cleanup

Absorb with inert absorbent material and dispose with dry waste.

## 7. HANDLING AND STORAGE

**Precautions for safe handling** Handle in accordance with good industrial hygiene and safety practice.

### Conditions for safe storage

**Storage temperature** -20° F  
**Storage Conditions** Store in original containers with lids closed.  
**Incompatible materials** unknown

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

This product contains no components with exposure limits (OSHA PELs or ACGIH TLVs)

### Engineering controls

Standard lab safety components such as showers, eyewash stations, and standard ventilation systems are recommended.

### Personal protection measures

Use of standard laboratory Personal Protective Equipment (PPE) such as a lab coat, gloves, and safety glasses is recommended. Keep laboratory well ventilated. Handle product in accordance with good industrial hygiene and safety practice.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state</b>	liquid
<b>Appearance</b>	colorless/cloudy
<b>Odor</b>	none/mild
<b>Vapor pressure</b>	No information available
<b>pH</b>	No information available
<b>Relative density</b>	No information available
<b>Melting point / freezing point</b>	No information available
<b>Water solubility</b>	No information available
<b>Solubility in other solvents</b>	No information available
<b>Boiling point / boiling range</b>	No information available
<b>Flash point</b>	No information available
<b>Evaporation rate</b>	No information available
<b>Flammability (solid, gas)</b>	No information available
<b>Partition coefficient</b>	No information available
<b>Auto-ignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available
<b>Viscosity</b>	No information available

## 10. STABILITY AND REACTIVITY

**Reactivity** No data available.

**Chemical stability** Stable under recommended storage conditions.

**Other** **Possibility of hazardous reactions**  
No hazardous reactions are known or expected. The product is not known to react or polymerize resulting in excess pressure, heat, or any other hazardous conditions.

**Conditions to avoid**  
None

**Incompatible materials**  
Strong oxidizing agents.

**Hazardous decomposition products**  
None are known or expected.

## 11. TOXICOLOGICAL INFORMATION

### Likely routes of exposure

**Inhalation** Avoid breathing vapors or mists. May cause irritation of respiratory tract.

**Ingestion** Avoid ingestion.

**Skin contact** Prolonged contact may cause redness and irritation. Repeated exposure may cause skin dryness or cracking.

**Eye contact** Avoid eye contact. May cause redness and irritation.

**Delayed, immediate, or chronic effects from short and long-term exposure** None are known or expected.

### Numerical measures of toxicity

Ingredient	% by weight	CAS #	LD50
Betaine (CH <sub>3</sub> ) <sub>3</sub> N <sup>+</sup> CH <sub>2</sub> COO <sup>-</sup>	59	107-43-7	Oral (rat) > 11,179 mg/kg
Tris HCl NH <sub>2</sub> C(CH <sub>2</sub> OH) <sub>3</sub> · HCl Tris(hydroxymethyl)aminomethane hydrochloride	<1	1185-53-1	Oral (rat) >5,000 mg/kg Dermal (rat) >5,000 mg/kg

**Symptoms of exposure** No information available.

### Potential carcinogen status

**NTP Report on Carcinogens** Not a known or anticipated carcinogen  
**IARC Monographs** Not a probable, possible, or confirmed carcinogen  
**OSHA** Not listed

## 12.ECOLOGICAL INFORMATION

### Ecotoxicity

**Marine pollutant:** Components of this product known to be toxic to fish, aquatic invertebrates, algae, and/or bacteria are listed below.

Component	Fish	Aquatic Invertebrates	Fresh water Algae	Bacteria
Betaine (CH <sub>3</sub> ) <sub>3</sub> N <sup>+</sup> CH <sub>2</sub> COO <sup>-</sup> CAS 107-43-7	-	EC50 (water flea) 4,335 mg/L at 48 hours	ErC50 (green algae) 1,199 mg/L at 72 hours NOEC (green algae) 312.5 mg/l at 72 hours	-

### Persistence and degradability

Betaine (CAS 107-43-7) is 88% readily biodegradable in 28 days.  
No information available about other components.

### Bioaccumulation

No information available

### Mobility from soil to groundwater

No information available

### Other adverse effects

No information available

## 13.DISPOSAL CONSIDERATIONS

**Disposal guidelines** Dispose with dry waste, do not flush down drains. Refer to Section 8 for PPE recommendations.

## 14.TRANSPORT INFORMATION

DOT Not regulated

## 15.REGULATORY INFORMATION

### US Federal Regulations

No components are subject to reporting requirements

### US State Regulations

#### California Proposition 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

#### Massachusetts Right To Know Components

No components are subject to the Right to Know Act

#### Pennsylvania Right To Know Components

Betaine CAS 107-43-7

#### New Jersey Right To Know Components

Betaine CAS 107-43-7

## 16.OTHER INFORMATION

This document was prepared on 13February2023

### Disclaimer

**IMPORTANT:** The information in this SDS is provided in good faith based on our knowledge as of the issue date (or subsequent revision date, if any), and is to be used only as a guide. This SDS does not constitute a guarantee (express or implied) of any kind and we make no warranties or merchantability or fitness for a particular purpose. This information relates only to the designated product as shipped and may not be valid if the product is used in combination with any other materials or is not used in accordance with our instructions. It is the responsibility of the buyer/user to ensure that its activities comply with all applicable governmental requirements. Since conditions of use of the product are not under the control of DNA Polymerase Technology, it is the duty of the buyer/user to determine the necessary conditions for the safe use of the product. DNA Polymerase Technology will not be liable for any damages resulting from handling or contact with the product.

**End of Safety  
Data Sheet**