

MATERIAL SAFETY DATA SHEET

Product	
Item #	Title
EB-DDK-Preps	EB Pure DNase I Digestion Kit
Components	
DDK-DDB-Preps	EB-DDK DNase Digestion Buffer
DDK-DI-Preps	EB-DDK DNase I

MATERIAL SAFETY DATA SHEET

Product Title: EB-DDK DNase Digestion Buffer

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Title: EB-DDK DNase Digestion Buffer
Item number: DDK-DDB-Preps-PC
Document Number: PC-MSDS-061 Version 001
Relevant identified uses of the substance or mixture and uses advised against: For research use only.
Application of the substance / the mixture
Details of the supplier of the safety data sheet
 Manufacturer/Supplier:
 Empirical Bioscience
 2007 EastCastle Dr SE
 Grand Rapids, MI 49508 U.S.A.
 1-877.479.9949
 MSDS author; customer.service@empiricalbioscience.com

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients (<i>specific</i>)	%	CAS Number
Sodium azide	0.05	26628-22-8

SECTION 3 — HAZARDS IDENTIFICATION

Labeling according to Regulation (EC) No 1272/2008:
Hazard pictograms: Not Applicable
Signal Word: Not Applicable
Hazard statements: Not a hazardous substance or mixture
Precautionary Statements: P261 Avoid breathing dust/fumes/gas/mist/vapors/spray.
 P311 Call a poison center or doctor/physician.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician.
 P304 + P340 IF INHALED: Remove person to fresh air and keep in a comfortable position for breathing.

Hazard Classification:
OSHA Hazard Overview: No known OSHA hazards. Not a dangerous substance according to GHS.
Health Hazards:

Acute Toxicity, oral	Not Applicable
Acute Toxicity, inhalation	Not Applicable
Acute Toxicity, dermal	Not Applicable
Acute Aquatic Toxicity	Not Applicable
Chronic Aquatic Toxicity	Not Applicable

Potential Health Effects: Aggravated Medical Conditions: Not Applicable
 Symptoms of Overexposure:
 Inhalation: No Data Available.
 Skin: No Data Available.
 Eyes: No Data Available.
 Ingestion: No Data Available.

Carcinogenicity:

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.

ACGIH: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by ACGIH.

OSHA: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or human carcinogen by OSHA.

NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by NTP.

MATERIAL SAFETY DATA SHEET

Product Title: EB-DDK DNase Digestion Buffer

SECTION 4 — FIRST AID MEASURES

Description of first aid measures

General information: Wear protective gloves/protective clothing/eye protection/face protection.

After inhalation: If not breathing, give artificial respiration.

After skin contact: Wash with soap and water.

After eye contact: Remove contact lenses, if present and easy to do. Continue rinsing.

After swallowing: No data available.

Most important symptoms and effects, both acute and delayed: No data available.

Indication of any immediate medical attention and special treatment needed: Treat symptomatically. Symptoms may be delayed.

SECTION 5 — FIRE FIGHTING MEASURES

Conditions of Flammability: Not flammable or combustible.

Suitable Extinguishing Agents: CO₂, dry powder, water spray, or regular foam.

Hazardous Combustion Products: Not applicable.

Protective Equipment for Firefighters: Wear NIOSH-approved self-contained breathing apparatus if necessary.

Further Information: Prevent firefighting water from entering surface water or groundwater.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Personal Precautions: Avoid inhalation of vapors or mist. See Section 8: Exposure Control/Personal Protection for more information.

Environmental Precautions: Not Applicable.

Emergency Procedures: Evacuate personnel to safe areas and follow emergency response protocols.

Methods and material for containment and cleaning up: Use inert absorbent material to soak up spill.

SECTION 7 — HANDLING AND STORAGE

Precautions for Safe Handling: Handle in accordance with good chemical hygiene and safety practices. Protect from moisture.

Avoid contact with skin and eyes. Avoid inhalation of vapors or mist.

Conditions for safe storage: Keep container tightly closed in a dry, cool, and well-ventilated place.

Incompatible Products: Not Applicable.

SECTION 8 — EXPOSURE CONTROL / PERSONAL PROTECTION

Appropriate Engineering Controls: Adequate ventilation and access to eye washing stations are required.

Personal protective equipment:

Hand Protection:	Use gloves when handling this product. Inspect gloves prior to use for any visible damage. Use proper glove removal technique to prevent contact with skin. Dispose of gloves in accordance with applicable laws. Wash and dry hands after use.
Eye Protection:	Wear a face shield and/or safety goggles when handling this product. Use NIOSH-approved eyewear.
Skin and Body Protection:	Wear appropriate laboratory attire when handling this product, such as gloves, long pants, closed-toe shoes, and a laboratory coat.
Respiratory Protection:	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level, an approved respirator must be used.
Hygiene Measures:	Avoid contact with eyes, skin, and clothing. Wash hands thoroughly after using this product. Do not eat, drink, or smoke when handling this product.

Special Requirements for PPE, Clothing, Respirators, etc: N/A

Components with Workplace Control Parameters: N/A

Product Title: EB-DDK DNase Digestion Buffer

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Form: Liquid
Color: Colorless

Odor: No data available

Odor threshold: No data available

pH-value at 20 °C (68 °F): 7.0-9.0

Melting point/Melting range: No data available

Boiling point/Boiling range: No data available

Flash point: No data available

Flammability (solid, gaseous): No data available

Ignition temperature: No data available

Decomposition temperature: No data available

Auto igniting: No data available

Danger of explosion: No data available

Explosion limits:

Lower: No data available

Upper: No data available

Vapor pressure at 20 °C (68 °F): No data available

Density at 20 °C (68 °F): No data available

Relative density: No data available

Vapour density: No data available

Evaporation rate: No data available

Solubility in / Miscibility with Water: No data available

Partition coefficient (n-octanol/water): No data available

Viscosity: No data available

Dynamic: No data available

Kinematic: No data available

Solvent content: No data available

Organic Solvents: No data available

Water: No data available

Solids content: No data available

Other information: No data available

SECTION 10 — STABILITY AND REACTIVITY

Reactivity: No dangerous reactions known under conditions of normal use.

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: No data available.

Conditions to avoid: No data available.

Incompatible materials: No data available

Hazardous decomposition products: No data available

MATERIAL SAFETY DATA SHEET

Product Title: EB-DDK DNase Digestion Buffer

SECTION 11 — TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure:

Inhalation:	No data available.
Ingestion:	No data available.
Skin:	No data available.
Eyes:	No data available.

Information on toxicological effects:**Acute toxicity**

Oral LD50	No data available
Inhalation LD50	No data available
Dermal LD50	No data available
Other:	No data available

Skin corrosion/irritation: No data available

Serious eye damage/irritation: No data available.

Respiratory or skin sensitization: No data available.

Germ cell mutagenicity: No data available

Carcinogenicity

IARC:	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.
ACGIH:	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by ACGIH.
OSHA:	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by OSHA.
NTP:	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by NTP.

Reproductive Toxicity: No data available

Teratogenicity: No data available.

Specific Target Organ Toxicity – Single Exposure: No data available.

Specific Target Organ Toxicity – Repeated Exposures: No data available.

Aspiration Hazard: No data available.

Signs and symptoms of exposure: No data available.

Synergistic effects: No data available.

SECTION 12 — ECOLOGICAL INFORMATION

Toxicity: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil. No data available.

Results of PBT and vPvB assessment:

PBT: No data available

vPvB: No data available

Other adverse effects This product contains an environmentally hazardous substance below the cutoff level. Refer to Section 3 for ingredient information. Do not allow undiluted product to enter sewer/surface or ground water.

SECTION 13 — DISPOSAL CONSIDERATIONS

Product: Disposal should be in accordance with applicable regional, national and local laws and regulations. S29 – Do not empty into drains. S57 – Use appropriate container to avoid environmental contamination. Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Contamination packaging: Disposal must be made according to official regulations. To minimize exposure, please refer to Section 8: Exposure Control/Personal Protection of this SDS

MATERIAL SAFETY DATA SHEET

Product Title: EB-DDK DNase Digestion Buffer

SECTION 14 — TRANSPORT INFORMATION

DOT: Not considered dangerous goods
IMDG: Not considered dangerous goods
IATA: Not considered dangerous goods

SECTION 15 — REGULATORY INFORMATION

US Federal Regulations

OSHA Hazards: Harmful by inhalation, harmful by ingestion, harmful in contact with skin.
Aggravated Medical Conditions: May cause nervous system disturbances.
Symptoms of Overexposure:
Inhalation: Harmful if inhaled. May cause respiratory irritation.
Skin: Harmful if absorbed through the skin. May cause skin irritation.
Eyes: May cause eye irritation.
Ingestion: Harmful if swallowed.
SARA 302 Components: None present or none present in regulated quantities.
SARA 313 Components: Sodium azide is subject to reporting requirements of Section 313, Title III of SARA. 1.0% de minimis concentration.
SARA 311/312 Hazards: Not Applicable.

US State Regulation:

California Prop. 65: No ingredients regulated by CA Prop 65 present.
New Jersey & Community RTK: Sodium azide (CAS 26628-22-8), Water (CAS No 7732-18-5)
Massachusetts RTK: Sodium azide (CAS No 26628-22-8).
Pennsylvania RTK: Sodium azide (CAS 26628-22-8), Water (CAS No 7732-18-5)
Rhode Island RTK: No ingredients regulated by RI Right to Know Act present

SECTION 16 — OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS
Empirical Bioscience
2007 Eastcastle Dr SE
Grand Rapids, MI 49508 U.S.A.
1-877.479.9949

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50
* Data compared to the previous version altered.

MATERIAL SAFETY DATA SHEET

Product Title: EB-DDK DNase I

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Title: EB-DDK DNase I
Item number: DDK-DI-Preps-PC
Document Number: PC-MSDS-062 Version 001
Relevant identified uses of the substance or mixture and uses advised against: For research use only.
Application of the substance / the mixture
Details of the supplier of the safety data sheet
Manufacturer/Supplier:
Empirical Bioscience
2007 EastCastle Dr SE
Grand Rapids, MI 49508 U.S.A.
1-877.479.9949
MSDS author; customer.service@empiricalbioscience.com

SECTION 2 — COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients (<i>specific</i>)	%	CAS Number
DNase I	<1%	9003-98-9
Glycerol	30-60%	56-81-5

SECTION 3 — HAZARDS IDENTIFICATION

Labeling according to Regulation (EC) No 1272/2008:**Hazard pictograms:** Not Applicable**Signal Word:** Not Applicable**Hazard statements:** Not a hazardous substance or mixture**Precautionary Statements:** Not Applicable.**Hazard Classification:****OSHA Hazard Overview:** No known OSHA hazards. Not a dangerous substance according to GHS.

Health Hazards: Acute Toxicity, oral	Not Applicable
Acute Toxicity, inhalation	Not Applicable
Acute Toxicity, dermal	Not Applicable
Acute Aquatic Toxicity	Not Applicable
Chronic Aquatic Toxicity	Not Applicable

Potential Health Effects: Aggravated Medical Conditions:
Symptoms of Overexposure:
Inhalation: May cause sensitization by inhalation.
Skin: May cause sensitization on skin contact.
Eyes: May cause eye irritation.
Ingestion: May be harmful if swallowed.

Carcinogenicity:

- IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.
- ACGIH: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by ACGIH.
- OSHA: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or human carcinogen by OSHA.
- NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by NTP.

MATERIAL SAFETY DATA SHEET

Product Title: EB-DDK DNase I

SECTION 4 — FIRST AID MEASURES

Description of first aid measures

General information: Wear protective gloves/protective clothing/eye protection/face protection.

After inhalation: If inhaled, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

After skin contact: Wash with soap and water. Consult a physician.

After eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

After swallowing: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed: No data available.

Indication of any immediate medical attention and special treatment needed: Treat symptomatically. Symptoms may be delayed.

SECTION 5 — FIRE FIGHTING MEASURES

Conditions of Flammability: Not flammable or combustible.

Suitable Extinguishing Agents: CO₂, dry powder, water spray, or alcohol resistant foam.

Hazardous Combustion Products: Not applicable.

Protective Equipment for Firefighters: Wear NIOSH-approved self-contained breathing apparatus if necessary.

Further Information: Not applicable.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use personal protective equipment. Avoid inhalation of vapors, mist, or gas. See Section 8: Exposure Control/Personal Protection for more information. Evacuate to safe areas.

Environmental Precautions: Do not let product enter drains.

Emergency Procedures: Evacuate personnel to safe areas and follow emergency response protocols.

Methods and material for containment and cleaning up: Absorb on sand or vermiculite and place in closed containers for disposal. Pick up and transfer to properly labeled containers. Ensure proper ventilation and cleaning of spill site.

SECTION 7 — HANDLING AND STORAGE

Precautions for Safe Handling: Handle in accordance with good chemical hygiene and safety practices. Protect from moisture. Avoid contact with skin and eyes. Avoid inhalation of vapors or mist.

Conditions for safe storage: Store at -20°C. Keep container tightly closed and dry in a well ventilated place.

Incompatible Products: Not Applicable.

SECTION 8 — EXPOSURE CONTROL / PERSONAL PROTECTION

Appropriate Engineering Controls: Adequate ventilation and access to eye washing stations are required.

Personal protective equipment:

Hand Protection:	Use gloves when handling this product. Inspect gloves prior to use for any visible damage. Use proper glove removal technique to prevent contact with skin. Dispose of gloves in accordance with applicable laws. Wash and dry hands after use.
Eye Protection:	Wear a face shield and/or safety goggles when handling this product. Use NIOSH-approved eyewear.
Skin and Body Protection:	Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Respiratory Protection:	For nuisance exposures, use type P95 (US) or type P1 (EU EN 143) particle respirator. For a higher level of protection, use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
Hygiene Measures:	Avoid contact with eyes, skin, and clothing. Wash hands thoroughly after using this product. Do not eat, drink, or smoke when handling this product.

Special Requirements for PPE, Clothing, Respirators, etc: N/A

Components with Workplace Control Parameters:

Components	CAS No.	Value	Control Parameters	Basis
Glycerol	56-81-5	TWA	10mg/m ³	USA. ACGIH Threshold Limit Values (TLV)
		Remarks: Upper respiratory tract irritation		
		TWA	5mg/m ³	USA. OSHA-TABLE Z-1 for Air Contaminants-1910.1000
		TWA	15mg/m ³	USA. OSHA-TABLE Z-1 for Air Contaminants-1910.1000

Product Title: EB-DDK DNase I

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Appearance:

Form: Liquid
Color: Colorless

Odor: No data available

Odor threshold: No data available

pH-value at 20 °C (68 °F): No data available

Melting point/Melting range: No data available

Boiling point/Boiling range: No data available

Flash point: No data available

Flammability (solid, gaseous): No data available

Ignition temperature: No data available

Decomposition temperature: No data available

Auto igniting: No data available

Danger of explosion: No data available

Explosion limits:

Lower: No data available

Upper: No data available

Vapor pressure at 20 °C (68 °F): No data available

Density at 20 °C (68 °F): No data available

Relative density: No data available

Vapour density: No data available

Evaporation rate: No data available

Solubility in / Miscibility with Water: No data available

Partition coefficient (n-octanol/water): No data available

Viscosity: No data available

Dynamic: No data available

Kinematic: No data available

Solvent content: No data available

Organic Solvents: No data available

Water: No data available

Solids content: No data available

Other information: No data available

SECTION 10 — STABILITY AND REACTIVITY

Reactivity: No dangerous reactions known under conditions of normal use.

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions: No data available.

Conditions to avoid: Incompatible materials, ignition sources, heat.

Incompatible materials: Strong oxidizing agents, strong bases

Hazardous decomposition products: No data available

MATERIAL SAFETY DATA SHEET

Product Title: EB-DDK DNase I

SECTION 11 — TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure:

Inhalation: No data available.
 Ingestion: No data available.
 Skin: No data available.
 Eyes: No data available.

Information on toxicological effects:

Acute toxicity	Glycerol	DNase I
Oral LD50	12,600 mg/kg (Rat)	No data available
Inhalation LD50	No data available	No data available
Dermal LD50	10,000 mg/kg (Rabbit)	No data available
Other:	No data available	No data available
Skin corrosion/irritation:	Mild skin irritation, 24 hours (Rabbit)	No data available
Serious eye damage/irritation:	Mild eye irritation, 24 hours (Rabbit)	No data available.
Respiratory or skin sensitization:	No data available.	
Germ cell mutagenicity:	No data available	

Carcinogenicity

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.
 ACGIH: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by ACGIH.
 OSHA: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by OSHA.
 NTP: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by NTP.

Reproductive Toxicity: No data available

Teratogenicity: No data available.

Specific Target Organ Toxicity – Single Exposure: No data available.

Specific Target Organ Toxicity – Repeated Exposures: No data available.

Aspiration Hazard: No data available.

Signs and symptoms of exposure: No data available.

Synergistic effects: No data available.

SECTION 12 — ECOLOGICAL INFORMATION

Toxicity: No data available

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil: No data available.

Results of PBT and vPvB assessment:

PBT: No data available

vPvB: No data available

Other adverse effects: No data available.

SECTION 13 — DISPOSAL CONSIDERATIONS

Product: Disposal should be in accordance with applicable regional, national and local laws and regulations. S29 – Do not empty into drains. S57 – Use appropriate container to avoid environmental contamination. Refer to Section 7: Handling and Storage and Section 8: Exposure Control/Personal Protection for additional handling information and protection of employees.

Contamination packaging: Disposal must be made according to official regulations. To minimize exposure, please refer to Section 8: Exposure Control/Personal Protection of this SDS

MATERIAL SAFETY DATA SHEET

Product Title: EB-DDK DNase I

SECTION 14 — TRANSPORT INFORMATION

DOT: Not considered dangerous goods
IMDG: Not considered dangerous goods
IATA: Not considered dangerous goods

SECTION 15 — REGULATORY INFORMATION

US Federal Regulations

OSHA Hazards: Target organ effect, respiratory sensitizer, skin sensitizer.

Aggravated Medical Conditions:

Symptoms of Overexposure:

Inhalation: May cause sensitization by inhalation.

Skin: May cause sensitization on skin contact.

Eyes:

Ingestion:

SARA 302 Components: None present or none present in regulated quantities.

SARA 313 Components: None present or none present in regulated quantities.

SARA 311/312 Hazards: No SARA Hazards.

US State Regulation:

California Prop. 65: No ingredients regulated by CA Prop 65 present.

New Jersey & Community RTK: Water (CAS No 7732-18-5), Glycerol (CAS No 56-81-5), DNase (CAS No 9003-98-9)

Massachusetts RTK: Glycerol (CAS No 56-81-5)

Pennsylvania RTK: Water (CAS No 7732-18-5), Glycerol (CAS No 56-81-5), DNase (CAS No 9003-98-9)

Rhode Island RTK: Water (CAS No 7732-18-5), Glycerol (CAS No 56-81-5)

SECTION 16 — OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Department issuing MSDS

Empirical Bioscience

2007 Eastcastle Dr SE

Grand Rapids, MI 49508 U.S.A.

1-877.479.9949

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50

* Data compared to the previous version altered.