

MATERIAL SAFETY DATA SHEET

Product	
Item #	Title
EB-TRK-Preps	EB Pure Total RNA Kit
Components	
TRK-LB-Preps-PC	EB-TRK Lysis Buffer
TRK-WB1-Preps-PC	EB-TRK RNA Wash Buffer I
TRK-WB2-Preps-PC	EB-TRK RNA Wash Buffer II
TRK-DEPC-Preps-PC	EB-TRK DEPC Water

MATERIAL SAFETY DATA SHEET

Product Title: EB-TRK Lysis Buffer

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Title: EB-TRK Lysis Buffer
Item number: TRK-LB-Preps-PC
Document Number: PC-MSDS-051 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
Guanidine Thiocyanate	25-50%	593-84-0

SECTION 3 — HAZARDS IDENTIFICATION

Labeling according to Regulation (EC) No 1272/2008:



Hazard pictograms:

Signal Word: Warning

Hazard statements: H412 Harmful to aquatic life with long lasting effects.
 H302 Harmful if swallowed.
 H312 Harmful in contact with skin.
 H332 Harmful if inhaled

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: Harmful by inhalation, harmful by ingestion, harmful in contact with skin.

Health Hazards: Acute Toxicity, oral	Category 4
Acute Toxicity, inhalation	Category 4
Acute Toxicity, dermal	Category 4
Acute Aquatic Toxicity	Category 3
Chronic Aquatic Toxicity	Category 3

Potential Health Effects: Aggravated Medical Conditions: May cause nervous system disturbances
 Symptoms of Overexposure:
 Inhalation: Harmful if inhaled. May cause respiratory tract irritation.
 Skin: Harmful if absorbed through skin. May cause skin irritation.
 Eyes: May cause eye irritation.
 Ingestion: 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- TRK Lysis Buffer

SECTION 4 — FIRST AID MEASURES

Description of first aid measures

General information: Exit to a safe area. Consult a physician. Seek medical attention.

After inhalation: Remove to fresh air. If not breathing, give artificial respiration. Seek medical attention.

After skin contact: Exit to safe area. Remove contaminated clothing. Wash Skin with soap and copious amounts of water. Seek medical attention.

After eye contact: Flush eyes with clean water for a minimum of 15 minutes keeping eyes open. Seek medical attention.

After swallowing: Rinse mouth with water. Never give anything by mouth to an unconscious person. Seek medical attention.

Most important symptoms and effects, both acute and delayed: May cause pain, irritation or redness, and watering of eyes.

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, extinguishing powder, water spray, or alcohol resistant foam.

Hazardous Combustion Products: Carbon oxides (CO, CO₂), sulfur oxides (SO_x), nitrogen oxides (NO_x).

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: Wear respiratory protection when ventilation is inadequate. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep away from heat and sources of ignition. See Section 8: Exposure Controls/Personal Protection for more details.

Environmental Precautions: Prevent further leakage if area is safe. Do not let product enter drains. Avoid discharge into the environment.

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. Dispose of hazardous waste. Do not flush with water.

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. Protect from light and moisture. Do not store near acids.

Incompatible Products: Strong oxidizing agents, strong acids.

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- TRK Lysis 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): 5.0-7.0

Melting point/Melting range: No data available

Boiling point/Boiling range: No data available

Flash point: 95°F (35°C)

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: Heating, flames, sparks.

Incompatible materials: Strong acids, strong oxidizing agents, cyanides

Hazardous decomposition products: Carbon oxides (CO, CO₂), sulfur oxides (SO_x), nitrogen oxides (NO_x)

MATERIAL SAFETY DATA SHEET

Product Title: EB- TRK Lysis Buffer

SECTION 11 — TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure:

Inhalation:	Harmful if inhaled. May cause respiratory tract irritation.
Ingestion:	Harmful if swallowed.
Skin:	Harmful if absorbed through skin. May cause skin irritation.
Eyes:	May cause eye irritation.

Information on toxicological effects:**Acute toxicity**

Oral LD50	593 mg/kg (Rat)
Inhalation LD50	No data available
Dermal LD50	No data available
Other: Peritoneal LD50	300mg/kg (Mouse)

Skin corrosion/irritation: No data available

Serious eye damage/irritation: No data available.

Respiratory or skin sensitization: Components of this product may be absorbed into the body through the skin. Irritating to skin and mucous membranes.

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: Irritating to eyes, respiratory system, and skin.

SECTION 12 — ECOLOGICAL INFORMATION

Toxicity: EC50: 42.4 mg/L – 48h (*Daphnia*)

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil. Product is water soluble and may spread in water systems.

Results of PBT and vPvB assessment:

PBT: No data available

vPvB: No data available

Other adverse effects Harmful to aquatic life with long lasting effects.

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- TRK Lysis 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: None present or none present in regulated quantities.
SARA 311/312 Hazards: Acute health hazard.

US State Regulation:

California Prop. 65: No ingredients regulated by CA Prop 65 present.
New Jersey & Community RTK: Guanidine thiocyanate (CAS No 593-84-0), Water (CAS No 7732-18-5)
Massachusetts RTK: No ingredients regulated by MS Right to Know Act present.
Pennsylvania RTK: Guanidine thiocyanate (CAS No 593-84-0), Water (CAS No 7732-18-5)
Rhode Island RTK: Guanidine thiocyanate (CAS No 593-84-0), Water (CAS No 7732-18-5)

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.

MATERIAL SAFETY DATA SHEET

Product Title: EB-TRK RNA Wash Buffer 1

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Title: EB-TRK RNA Wash Buffer 1
Item number: TRK-WB1-Preps-PC
Document Number: PC-MSDS-052 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
Guanidine Thiocyanate	25-50%	593-84-0

SECTION 3 — HAZARDS IDENTIFICATION

Labeling according to Regulation (EC) No 1272/2008:



Hazard pictograms:

Signal Word: Warning

Hazard statements: H412 Harmful to aquatic life with long lasting effects.
 H302 Harmful if swallowed.
 H312 Harmful in contact with skin.
 H332 Harmful if inhaled

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: Harmful by inhalation, harmful by ingestion, harmful in contact with skin.

Health Hazards: Acute Toxicity, oral	Category 4
Acute Toxicity, inhalation	Category 4
Acute Toxicity, dermal	Category 4
Acute Aquatic Toxicity	Category 3
Chronic Aquatic Toxicity	Category 3

Potential Health Effects: Aggravated Medical Conditions: May cause nervous system disturbances
 Symptoms of Overexposure:
 Inhalation: Harmful if inhaled. May cause respiratory tract irritation.
 Skin: Harmful if absorbed through skin. May cause skin irritation.
 Eyes: May cause eye irritation.
 Ingestion: 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- TRK RNA Wash Buffer 1

SECTION 4 — FIRST AID MEASURES

Description of first aid measures

General information: Exit to a safe area. Consult a physician. Seek medical attention.

After inhalation: Remove to fresh air. If not breathing, give artificial respiration. Seek medical attention.

After skin contact: Exit to safe area. Remove contaminated clothing. Wash Skin with soap and copious amounts of water. Seek medical attention.

After eye contact: Flush eyes with clean water for a minimum of 15 minutes keeping eyes open. Seek medical attention.

After swallowing: Rinse mouth with water. Never give anything by mouth to an unconscious person. Seek medical attention.

Most important symptoms and effects, both acute and delayed: May cause pain, irritation or redness, and watering of eyes.

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, extinguishing powder, water spray, or alcohol resistant foam.

Hazardous Combustion Products: Carbon oxides (CO, CO₂), sulfur oxides (SO_x), nitrogen oxides (NO_x).

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: Wear respiratory protection when ventilation is inadequate. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep away from heat and sources of ignition. See Section 8: Exposure Controls/Personal Protection for more details.

Environmental Precautions: Prevent further leakage if area is safe. Do not let product enter drains. Avoid discharge into the environment.

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. Dispose of hazardous waste. Do not flush with water.

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. Protect from light and moisture. Do not store near acids.

Incompatible Products: Strong oxidizing agents, strong acids.

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

MATERIAL SAFETY DATA SHEET

Product Title: EB- TRK RNA Wash Buffer 1

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): 5.0-7.0

Melting point/Melting range: No data available

Boiling point/Boiling range: No data available

Flash point: 95°F (35°C)

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: Heating, flames, sparks.

Incompatible materials: Strong acids, strong oxidizing agents, cyanides

Hazardous decomposition products: Carbon oxides (CO, CO₂), sulfur oxides (SO_x), nitrogen oxides (NO_x)

Product Title: EB- TRK RNA Wash Buffer 1

SECTION 11 — TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure:

Inhalation:	Harmful if inhaled. May cause respiratory tract irritation.
Ingestion:	Harmful if swallowed.
Skin:	Harmful if absorbed through skin. May cause skin irritation.
Eyes:	May cause eye irritation.

Information on toxicological effects:

Acute toxicity

Oral LD50	593 mg/kg (Rat)
Inhalation LD50	No data available
Dermal LD50	No data available
Other: Peritoneal LD50	300mg/kg (Mouse)

Skin corrosion/irritation: No data available

Serious eye damage/irritation: No data available.

Respiratory or skin sensitization: Components of this product may be absorbed into the body through the skin. Irritating to skin and mucous membranes.

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: Irritating to eyes, respiratory system, and skin.

SECTION 12 — ECOLOGICAL INFORMATION

Toxicity: EC50: 42.4 mg/L – 48h (*Daphnia*)

Persistence and degradability: No data available

Bioaccumulative potential: No data available

Mobility in soil. Product is water soluble and may spread in water systems.

Results of PBT and vPvB assessment:

PBT: No data available

vPvB: No data available

Other adverse effects Harmful to aquatic life with long lasting effects.

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- TRK RNA Wash Buffer 1

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:	None present or none present in regulated quantities.
SARA 311/312 Hazards:	Acute health hazard.

US State Regulation:

California Prop. 65:	No ingredients regulated by CA Prop 65 present.
New Jersey & Community RTK:	Guanidine thiocyanate (CAS No 593-84-0), Water (CAS No 7732-18-5)
Massachusetts RTK:	No ingredients regulated by MS Right to Know Act present.
Pennsylvania RTK:	Guanidine thiocyanate (CAS No 593-84-0), Water (CAS No 7732-18-5)
Rhode Island RTK:	Guanidine thiocyanate (CAS No 593-84-0), Water (CAS No 7732-18-5)

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.

MATERIAL SAFETY DATA SHEET

Product Title: EB-TRK RNA Wash Buffer 2

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Title: EB-TRK RNA Wash Buffer 2
Item number: TRK-WB2-Preps-PC
Document Number: PC-MSDS-053 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
Mixture of Non-Hazardous Substances		

SECTION 3 — HAZARDS IDENTIFICATION

Labeling according to Regulation (EC) No 1272/2008: Void
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: Not Applicable
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- TRK RNA Wash Buffer 2

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 Skin with soap and water.

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

After swallowing: Not Applicable.

Most important symptoms and effects, both acute and delayed: Not Applicable.

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, extinguishing 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: Prevent firefighting water from entering surface water or groundwater.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Personal Precautions: Avoid breathing vapors or mist. See Section 8: Exposure Controls/Personal Protection for more details.

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. Dispose of hazardous waste. Do not flush with water.

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- TRK RNA Wash Buffer 2

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- TRK RNA Wash Buffer 2

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

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.

Additional information: 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. 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.

MATERIAL SAFETY DATA SHEET

Product Title: EB- TRK RNA Wash Buffer 2

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: No data available.
Aggravated Medical Conditions: No data available.
Symptoms of Overexposure:
Inhalation: No data available.
Skin: No data available.
Eyes: No data available.
Ingestion: No data available.
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 data available.

US State Regulation:

California Prop. 65: No ingredients regulated by CA Prop 65 present.
New Jersey & Community RTK: Component (Water); CAS No (7732-18-5)
Massachusetts RTK: No ingredients regulated by MS Right to Know Act present.
Pennsylvania RTK: Component (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-TRK DEPC Water

SECTION 1 — CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Title: EB-TRK DEPC Water
Item number: TRK-DEPC-Preps-PC
Document Number: PC-MSDS-054 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
Mixture of Non-Hazardous Substances		

SECTION 3 — HAZARDS IDENTIFICATION

Labeling according to Regulation (EC) No 1272/2008: Void
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: Not Applicable
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- TRK DEPC Water

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 Skin with soap and water.

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

After swallowing: Not Applicable.

Most important symptoms and effects, both acute and delayed: Not Applicable.

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, extinguishing 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: Prevent firefighting water from entering surface water or groundwater.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Personal Precautions: Avoid breathing vapors or mist. See Section 8: Exposure Controls/Personal Protection for more details.

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. Dispose of hazardous waste. Do not flush with water.

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- TRK DEPC Water

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- TRK DEPC Water

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

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.

Additional information: 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. 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.

MATERIAL SAFETY DATA SHEET

Product Title: EB- TRK DEPC Water

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: No data available.
Aggravated Medical Conditions: No data available.
Symptoms of Overexposure:
Inhalation: No data available.
Skin: No data available.
Eyes: No data available.
Ingestion: No data available.
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 data available.

US State Regulation:

California Prop. 65: No ingredients regulated by CA Prop 65 present.
New Jersey & Community RTK: Component (Water); CAS No (7732-18-5)
Massachusetts RTK: No ingredients regulated by MS Right to Know Act present.
Pennsylvania RTK: Component (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.