

10X Chromatin Rinse Buffer (CRB)

 Section 1: Chemical Information

 Product Name:
 Bead Wash Buffer 1

 Supplier: Phase Genomics, 1617 8th Ave N, Seattle, WA 98109, 1-833-742-7436

 Recommended use: Reagent

Section 2: Composition and Information on Ingredients

Hazard Classification Health Hazards: No known OSHA hazards Not a dangerous substance according to GHS GHS Label Element Hazard Symbol: N/A

Hazard Statements: Not a hazardous substance or mixture.

Section 3: Hazard Identification

Substance or Mixture: Mixture of non-hazardous substances.

Section 4: First Aid Measures

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

- If Inhaled: If not breathing, give artificial respiration. Consult doctor in case of complaints.
 - In Case of Skin Contact: Wash with soap and water. Generally doesn't irritate.
 - In Case of Eye Contact: Remove contact lenses, if present and easy to do. Continue rinsing.

If Swallowed: N/A

Most Important Symptoms and Effects, Acute and Delayed: N/A

Recommendations for Immediate Medical Attention and Special Treatment: Treat symptomatically.

Section 5: Fire and Explosion Data

Conditions of Flammability: Not flammable or combustible. Suitable Extinguishing Media: Dry powder, CO2, water spray or regular foam. Special Protective Equipment for Firefighters: Wear self-contained breathing apparatus, if necessary. Hazardous Combustion Products: Further Information: N/A Further information: N/A

Section 6: Accidental Release Measures

Personal Precautions: Not required.

Environmental Precautions: Do not allow undiluted product to enter sewer/surface or ground water. Emergency Procedures: Evacuate personnel to safe areas and follow emergency response protocols. Methods and Materials for Containment and Cleaning Up: Use inert absorbent material to soak up spill.

See section 7 for information on safe handling. See section 8 for information on PPE.

See section 13 for disposal information.

Section 7: Handling and Storage

Precautions for Safe Handling: Provide appropriate exhaust ventilation at places where dust is formed. Conditions for Safe Storage: Store at 2-8°C. Keep container tightly closed in a dry, well-ventilated place. Incompatible Products: N/A

Section 8: Exposure Controls and Personal Protection

Appropriate Engineering Controls: General industrial hygiene practice.

Recommendations for Personal Protective Measures:

Hand Protection: The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves: The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

Eve Protection: N/A

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: N/A

Hygiene Measures: Avoid contact with eyes, skin and clothing. Wash hands thoroughly after using this product. Special Requirements for Personal Protective Equipment, Protective Clothing, Respirators, etc: N/A Components with Workplace Control Parameters: N/A

Section 9: Physical and Chemical Properties

Appearance:

Form: Liquid Color: Clear Odor: Odorless

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Odor Threshold: No data available pH: No data available Melting Point/Freezing Point: No data available Initial Boiling Point/Boiling Range: No data available Flash Point: No data available Evaporation Rate: No data available Flammability (Solid, Gas): No data available Upper/Lower Limits on Flammability and Explosive Limits: Flammability Limit (Upper): No data available Flammability Limit (Lower): No data available Explosive Limit (Upper): No data available Explosive Limit (Lower): No data available Vapor Pressure: No data available Vapor Density: No data available Relative Density: No data available Solubility: Solubility in Water: Not miscible or difficult to mix. Solubility (Other): No data available Partition Coefficient (n-octanol/ water): No data available Auto-Ignition Temperature: No data available Decomposition Temperature: No data available Viscosity: No data available

Section 10: Stability and Reactivity Data

Reactivity: No data available Chemical Stability: No data available Possibility of Hazardous Reactions: Conditions to Avoid: No data available Materials to Avoid: No data available Hazardous Decomposition Products: No data available

Section 11: Toxicological Information

Information on Likely Routes of Exposure: Inhalation: No data available Ingestion: No data available Skin: No irritant effect. Eyes: No irritant effect. Information on Toxicological Effects: Acute Toxicity: Oral LD50: No data available Inhalation LC50: 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

Additional information:

The product is not subject to classification according to internally approved calculation methods for preparations: When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

Carcinogenicity:

IARC: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. ACGIH: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH. NTP: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.

OSHA: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.

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 known significant effects or critical hazards. Persistence and Degradability: No data available Bioaccumulative Potential: No data available



Mobility in Soil: No data available

PBT and vPvB Assessment: No data available

Other Adverse Effects: N/A General notes: Water hazard class 1 (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Section 13: Disposal Considerations

Recommendation: Smaller quantities can be disposed of with household waste.

Section 14: Transport Information

DOT: Not regulated. IMDG: Not regulated. IATA: Not regulated.

Section 15: Other 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

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

No SARA Hazards Massachusetts Right To Know Components: N/A Pennsylvania Right To Know Components: N/A New Jersey Right To Know Components: N/A California Prop. 65 Components

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

Section 16: Other Information

References: Not available. Other Special Considerations: Not available.

Last Updated: 07/06/2018 12:00 PM

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 Phase Genomics, it is the duty of the buyer/user to determine the necessary conditions for the safe use of the product. Phase Genomics will not be liable for any damages resulting from handling or contact with the product.

Bead Binding Buffer

 Section 1: Chemical Information

 Product Name:
 Bead Bind Buffer

 Supplier: Phase Genomics, 1617 8th Ave N, Seattle, WA 98109, 1-833-742-7436

 Recommended Use: reagent

Section 2: Composition and Information on Ingredients

Hazard Classification Health Hazards: No known OSHA hazards Not a dangerous substance according to GHS GHS Label Element Hazard Symbol: N/A Hazard Statements: Not a hazardous substance or mixture.

Section 3: Hazard Identification

Substance or Mixture: Mixture of non-hazardous substances.

Section 4: First Aid Measures

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

- If Inhaled: If not breathing, give artificial respiration. Consult doctor in case of complaints.
 - In Case of Skin Contact: Wash with soap and water. Generally doesn't irritate.
 - In Case of Eye Contact: Remove contact lenses, if present and easy to do. Continue rinsing.

If Swallowed: N/A

Most Important Symptoms and Effects, Acute and Delayed: N/A

Recommendations for Immediate Medical Attention and Special Treatment: Treat symptomatically.

Section 5: Fire and Explosion Data

Conditions of Flammability: Not flammable or combustible.

Suitable Extinguishing Media: Dry powder, CO2, water spray or regular foam.

Special Protective Equipment for Firefighters: Wear self-contained breathing apparatus, if necessary.

Hazardous Combustion Products: Further Information: N/A



Further information: N/A

Section 6: Accidental Release Measures

Personal Precautions: Not required.

Environmental Precautions: Do not allow undiluted product to enter sewer/surface or ground water. Emergency Procedures: Evacuate personnel to safe areas and follow emergency response protocols.

Methods and Materials for Containment and Cleaning Up: Use inert absorbent material to soak up spill.

See section 7 for information on safe handling.

See section 8 for information on PPE.

See section 13 for disposal information.

Section 7: Handling and Storage

Precautions for Safe Handling: Provide appropriate exhaust ventilation at places where dust is formed. Conditions for Safe Storage: Store at 2-8°C. Keep container tightly closed in a dry, well-ventilated place. Incompatible Products: N/A

Section 8: Exposure Controls and Personal Protection

Appropriate Engineering Controls: General industrial hygiene practice.

Recommendations for Personal Protective Measures:

Hand Protection: The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves: The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

Eye Protection: N/A

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: N/A

Hygiene Measures: Avoid contact with eyes, skin and clothing. Wash hands thoroughly after using this product. Special Requirements for Personal Protective Equipment, Protective Clothing, Respirators, etc: N/A Components with Workplace Control Parameters: N/A

Section 9: Physical and Chemical Properties

Appearance:

Form: Liquid Color: Clear Odor: Odorless Odor Threshold: No data available pH: No data available Melting Point/Freezing Point: No data available Initial Boiling Point/Boiling Range: No data available Flash Point: No data available Evaporation Rate: No data available Flammability (Solid, Gas): No data available Upper/Lower Limits on Flammability and Explosive Limits: Flammability Limit (Upper): No data available Flammability Limit (Lower): No data available Explosive Limit (Upper): No data available Explosive Limit (Lower): No data available Vapor Pressure: No data available Vapor Density: No data available Relative Density: No data available Solubility: Solubility in Water: Not miscible or difficult to mix. Solubility (Other): No data available Partition Coefficient (n-octanol/ water): No data available Auto-Ignition Temperature: No data available Decomposition Temperature: No data available Viscosity: No data available Section 10: Stability and Reactivity Data Reactivity: No data available Chemical Stability: No data available Possibility of Hazardous Reactions: Conditions to Avoid: No data available Materials to Avoid: No data available

Hazardous Decomposition Products: No data available

Section 11: Toxicological Information

Information on Likely Routes of Exposure:



Inhalation: No data available Ingestion: No data available Skin: No irritant effect. Eves: No irritant effect. Information on Toxicological Effects:

Acute Toxicity:

Oral LD50: No data available Inhalation LC50: No data available Dermal LD50: No data available

Other Information: 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

Additional information:

The product is not subject to classification according to internally approved calculation methods for preparations: When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

Carcinogenicity:

IARC: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. ACGIH: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH. NTP: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by NTP. OSHA: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.

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 known significant effects or critical hazards. Persistence and Degradability: No data available Bioaccumulative Potential: No data available Mobility in Soil: No data available PBT and vPvB Assessment: No data available Other Adverse Effects: N/A General notes: Water hazard class 1 (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Section 13: Disposal Considerations

Recommendation: Smaller quantities can be disposed of with household waste.

Section 14: Transport Information

DOT: Not regulated. IMDG: Not regulated. IATA: Not regulated.

Section 15: Other 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 This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

No SARA Hazards

Massachusetts Right To Know Components: N/A Pennsylvania Right To Know Components: N/A

New Jersey Right To Know Components: N/A California Prop. 65 Components

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

Section 16: Other Information

References: Not available. Other Special Considerations: Not available. Last Updated: 07/06/2018 12:00 PM



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 Phase Genomics, it is the duty of the buyer/user to determine the necessary conditions for the safe use of the product. Phase Genomics will not be liable for any damages resulting from handling or contact with the product.

Bead Wash Buffer 1

Section 1: Chemical Information Product Name: Bead Wash Buffer 1 Supplier: Phase Genomics, 1617 8th Ave N, Seattle, WA 98109, 1-833-742-7436 Recommended use: Reagent

Further information can be found on:

Company/Distributor identification: Integrated Sciences Pty. Ltd., 54 Gibbes Street, Chatswood NSW 2067, Australia Phone: 02 9417 7866 Fax: 02 9417 5066 Email: tech@integratedsci.com.au Emergency telephone number: Toll-free: 1800 252 204 (Monday-Friday 8.00 am – 6.00 pm)

Section 2: Composition and Information on Ingredients

Hazard Classification

Health Hazards: No known OSHA hazards Not a dangerous substance according to GHS GHS Label Element

Hazard Symbol: N/A Hazard Statements: Not a hazardous substance or mixture.

Section 3: Hazard Identification

Substance or Mixture: Mixture of non-hazardous substances.

Section 4: First Aid Measures

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

- If Inhaled: If not breathing, give artificial respiration. Consult doctor in case of complaints. In Case of Skin Contact: Wash with soap and water. Generally doesn't irritate. In Case of Eye Contact: Remove contact lenses, if present and easy to do. Continue rinsing.
- In Case of Eye Contact: Remove contact lenses, if present and easy to do. Continue rinsing. If Swallowed: N/A

Most Important Symptoms and Effects, Acute and Delayed: N/A

Recommendations for Immediate Medical Attention and Special Treatment: Treat symptomatically.

Section 5: Fire and Explosion Data

Conditions of Flammability: Not flammable or combustible. Suitable Extinguishing Media: Dry powder, CO2, water spray or regular foam. Special Protective Equipment for Firefighters: Wear self-contained breathing apparatus, if necessary. Hazardous Combustion Products: Further Information: N/A Further information: N/A

Section 6: Accidental Release Measures

Personal Precautions: Not required.

Environmental Precautions: Do not allow undiluted product to enter sewer/surface or ground water. Emergency Procedures: Evacuate personnel to safe areas and follow emergency response protocols. Methods and Materials for Containment and Cleaning Up: Use inert absorbent material to soak up spill.

See section 7 for information on safe handling.

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See section 8 for information on PPE. See section 13 for disposal information.

Section 7: Handling and Storage

Precautions for Safe Handling: Provide appropriate exhaust ventilation at places where dust is formed. Conditions for Safe Storage: Store at 2-8°C. Keep container tightly closed in a dry, well-ventilated place. Incompatible Products: N/A

Section 8: Exposure Controls and Personal Protection

Appropriate Engineering Controls: General industrial hygiene practice. Recommendations for Personal Protective Measures:

Hand Protection: The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves: The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

Eye Protection: N/A

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: N/A

Hygiene Measures: Avoid contact with eyes, skin and clothing. Wash hands thoroughly after using this product. Special Requirements for Personal Protective Equipment, Protective Clothing, Respirators, etc: N/A Components with Workplace Control Parameters: N/A

Section 9: Physical and Chemical Properties

Appearance:

Form: Liquid Color: Clear Odor: Odorless Odor Threshold: No data available pH: No data available Melting Point/Freezing Point: No data available Initial Boiling Point/Boiling Range: No data available Flash Point: No data available Evaporation Rate: No data available Flammability (Solid, Gas): No data available Upper/Lower Limits on Flammability and Explosive Limits: Flammability Limit (Upper): No data available Flammability Limit (Lower): No data available Explosive Limit (Upper): No data available Explosive Limit (Lower): No data available Vapor Pressure: No data available Vapor Density: No data available Relative Density: No data available Solubility: Solubility in Water: Not miscible or difficult to mix. Solubility (Other): No data available Partition Coefficient (n-octanol/ water): No data available Auto-Ignition Temperature: No data available Decomposition Temperature: No data available Viscosity: No data available Section 10: Stability and Reactivity Data

Reactivity: No data available Chemical Stability: No data available Possibility of Hazardous Reactions: Conditions to Avoid: No data available Materials to Avoid: No data available Hazardous Decomposition Products: No data available

Section 11: Toxicological Information

Information on Likely Routes of Exposure: Inhalation: No data available Ingestion: No data available Skin: No irritant effect. Eyes: No irritant effect. Information on Toxicological Effects: Acute Toxicity: Oral LD50: No data available Inhalation LC50: No data available



Dermal LD50: No data available

Other Information: 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 Additional information:

The product is not subject to classification according to internally approved calculation methods for preparations: When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

Carcinogenicity:

IARC: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

- ACGIH: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.
- NTP: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.

OSHA: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.

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 known significant effects or critical hazards. Persistence and Degradability: No data available Bioaccumulative Potential: No data available Mobility in Soil: No data available PBT and vPvB Assessment: No data available Other Adverse Effects: N/A General notes: Water hazard class 1 (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Section 13: Disposal Considerations

Recommendation: Smaller quantities can be disposed of with household waste.

Section 14: Transport Information

DOT: Not regulated. IMDG: Not regulated. IATA: Not regulated.

Section 15: Other 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

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards No SARA Hazards Massachusetts Right To Know Components: N/A Pennsylvania Right To Know Components: N/A

New Jersey Right To Know Components: N/A

California Prop. 65 Components

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

Section 16: Other Information

References: Not available. Other Special Considerations: Not available.

Last Updated: 07/06/2018 12:00 PM



Bead Wash Buffer 2

 Section 1: Chemical Information

 Product Name:
 Bead Wash Buffer 2

 Supplier: Phase Genomics, 1617 8th Ave N, Seattle, WA 98109, 1-833-742-7436

 Recommended Use: reagent

Section 2: Composition and Information on Ingredients

Hazard Classification Health Hazards: No known OSHA hazards Not a dangerous substance according to GHS GHS Label Element Hazard Symbol: N/A

Hazard Statements: Not a hazardous substance or mixture.

Section 3: Hazard Identification

Substance or Mixture: Mixture of non-hazardous substances.

Section 4: First Aid Measures

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

- If Inhaled: If not breathing, give artificial respiration. Consult doctor in case of complaints.
 - In Case of Skin Contact: Wash with soap and water. Generally doesn't irritate.

In Case of Eye Contact: Remove contact lenses, if present and easy to do. Continue rinsing.

If Swallowed: N/A

Most Important Symptoms and Effects, Acute and Delayed: N/A

Recommendations for Immediate Medical Attention and Special Treatment: Treat symptomatically.

Section 5: Fire and Explosion Data

Conditions of Flammability: Not flammable or combustible. Suitable Extinguishing Media: Dry powder, CO2, water spray or regular foam. Special Protective Equipment for Firefighters: Wear self-contained breathing apparatus, if necessary. Hazardous Combustion Products: Further Information: N/A Further information: N/A

Section 6: Accidental Release Measures

Personal Precautions: Not required. Environmental Precautions: Do not allow undiluted product to enter sewer/surface or ground water. Emergency Procedures: Evacuate personnel to safe areas and follow emergency response protocols. Methods and Materials for Containment and Cleaning Up: Use inert absorbent material to soak up spill. See section 7 for information on safe handling.

See section 8 for information on PPE.

See section 13 for disposal information.

Section 7: Handling and Storage

Precautions for Safe Handling: Provide appropriate exhaust ventilation at places where dust is formed. Conditions for Safe Storage: Store at 2-8°C. Keep container tightly closed in a dry, well-ventilated place. Incompatible Products: N/A

Section 8: Exposure Controls and Personal Protection

Appropriate Engineering Controls: General industrial hygiene practice.

Recommendations for Personal Protective Measures:

Hand Protection: The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves: The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

Eye Protection: N/A

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: N/A

Hygiene Measures: Avoid contact with eyes, skin and clothing. Wash hands thoroughly after using this product.

Special Requirements for Personal Protective Equipment, Protective Clothing, Respirators, etc: N/A

Components with Workplace Control Parameters: N/A

Section 9: Physical and Chemical Properties

Appearance:

Form: Liquid Color: Clear Odor: Odorless Odor Threshold: No data available



pH: No data available Melting Point/Freezing Point: No data available

Initial Boiling Point/Boiling Range: No data available

Flash Point: No data available

Evaporation Rate: No data available Flammability (Solid, Gas): No data available

Upper/Lower Limits on Flammability and Explosive Limits:

Flammability Limit (Upper): No data available Flammability Limit (Lower): No data available

Explosive Limit (Upper): No data available Explosive Limit (Lower): No data available Vapor Pressure: No data available

Vapor Density: No data available

Relative Density: No data available

Solubility:

Solubility in Water: Not miscible or difficult to mix. Solubility (Other): No data available Partition Coefficient (n-octanol/ water): No data available Auto-Ignition Temperature: No data available Decomposition Temperature: No data available Viscosity: No data available

Section 10: Stability and Reactivity Data

Reactivity: No data available Chemical Stability: No data available Possibility of Hazardous Reactions: Conditions to Avoid: No data available Materials to Avoid: No data available Hazardous Decomposition Products: No data available

Section 11: Toxicological Information

Information on Likely Routes of Exposure: Inhalation: No data available Ingestion: No data available Skin: No irritant effect. Eyes: No irritant effect. Information on Toxicological Effects: Acute Toxicity: Oral LD50: No data available

Inhalation LC50: No data available Dermal LD50: No data available

Other Information: 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

Additional information:

The product is not subject to classification according to internally approved calculation methods for preparations: When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

Carcinogenicity:

IARC: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. ACGIH: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.

- NTP: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by NTP.
- OSHA: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.

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 known significant effects or critical hazards. Persistence and Degradability: No data available Bioaccumulative Potential: No data available Mobility in Soil: No data available



PBT and vPvB Assessment: No data available Other Adverse Effects: N/A

General notes: Water hazard class 1 (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Section 13: Disposal Considerations

Recommendation: Smaller quantities can be disposed of with household waste.

Section 14: Transport Information

DOT: Not regulated. IMDG: Not regulated. IATA: Not regulated.

Section 15: Other 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

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards No SARA Hazards

Massachusetts Right To Know Components: N/A Pennsylvania Right To Know Components: N/A New Jersey Right To Know Components: N/A California Prop. 65 Components

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

Section 16: Other Information

References: Not available. Other Special Considerations: Not available.

Last Updated: 07/06/2018 12:00 PM



Crosslinking Solution

Section 1: Chemical Information Product Name: Crosslinking Solution RTECS: LP8925000 TSCA: TSCA 8(b) inventory: Formaldehyde; Water Cl#: Not applicable. Synonym: Formalin Chemical Name: Formaldehyde Chemical Formula: HCHO Supplier: Phase Genomics, 1617 8th Ave N, Seattle, WA 98109, 1-833-742-7436 Recommended use: reagent

Section 2: Composition and Information on Ingredients

Composition:

1% Formaldehyde, CAS# 50-00-0 99% Water. CAS#7732-18-5

Toxicological Data on Ingredients: Formaldehyde: ORAL (LD50): Acute: 100 mg/kg [Rat]. 42 mg/kg [Mouse]. 260 mg/kg [Guinea pig]. MIST (LC50): Acute: 454000 mg/m 4 hours [Mouse].

Section 3: Hazard Identification

Potential Acute Health Effects:

Very hazardous in case of eye contact (irritant), of ingestion. Hazardous in case of skin contact (irritant, sensitizer, permeator), of eye contact (corrosive). Slightly hazardous in case of skin contact (corrosive). Severe over-exposure can result in death. Inflammation of the eye is characterized by redness, watering, and itching.

Potential Chronic Health Effects:

Hazardous in case of skin contact (sensitizer). CARCINOGENIC EFFECTS: Classified A2 (Suspected for human.) by ACGIH, 2A (Probable for human.) by IARC [Formaldehyde]. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Formaldehyde]. Mutagenic for bacteria and/or yeast. [Formaldehyde]. Mutagenic alcohol]. TERATOGENIC EFFECTS: Classified POSSIBLE for human [Methyl alcohol]. DEVELOPMENTAL TOXICITY: Not available The substance may be toxic to kidneys, liver, skin, central nervous system (CNS). Repeated or prolonged exposure to the substance can produce target organs damage. Repeated exposure to a highly toxic material may produce general deterioration of health by an accumulation in one or many human organs.

Section 4: First Aid Measures

Eye Contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Get medical attention immediately.

Skin Contact:

In case of contact, immediately flush skin with plenty of water. Cover the irritated skin with an emollient. Remove contaminated clothing and shoes. Cold water may be used. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention.

Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation:

If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. WARNING: It may be hazardous to the person providing aid to give mouth-to-mouth resuscitation when the inhaled material is toxic, infectious or corrosive. Seek immediate medical attention.

Ingestion:

If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product:

Flammable. Auto-Ignition Temperature: 430°C (806°F) Flash Points: CLOSED CUP: 50°C (122°F). OPEN CUP: 60°C (140°F). Flammable Limits: The greatest known range is LOWER: 6% UPPER: 36.5% (Methyl alcohol) Products of Combustion: These products are carbon oxides (CO, CO2).

Fire Hazards in Presence of Various Substances:

Flammable in presence of open flames and sparks, of heat. Non-flammable in presence of shocks, of oxidizing materials, of reducing materials, of combustible materials, of organic materials, of metals, of acids, of akalis.

Explosion Hazards in Presence of Various Substances: Non-explosive in presence of open flames and sparks, of shocks.

Fire Fighting Media and Instructions:

Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog. Cool containing vessels with water jet in order to prevent pressure build-up, autoignition or explosion.

Special Remarks on Fire Hazards:

Explosive in the form of vapor when exposed to heat or flame. Vapor may travel considerable distance to source of ignition and flash back. When heated to decomposition, it emits acrid smoke and irritating fumes. CAUTION: MAY BURN WITH MAY BURN WITH NEAR INVISIBLE FLAME (Methyl alcohol)

Special Remarks on Explosion Hazards:

Reaction with peroxide, nitrogen dioxide, and permformic acid can cause an explosion.

(Formaldehyde gas)

Section 6: Accidental Release Measures



Small Spill:

Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. If necessary: Neutralize the residue with a dilute solution of sodium carbonate.

Large Spill:

Flammable liquid. Poisonous liquid. Keep away from heat. Keep away from sources of ignition. Stop leak if without risk. Absorb with DRY earth, sand or other non-combustible material. Do not get water inside container. Do not touch spilled material. Use water spray to reduce vapors. Prevent entry into sewers, basements or confined areas; dike if needed. Call for assistance on disposal. Neutralize the residue with a dilute solution of sodium carbonate. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7: Handling and Storage

Precautions:

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, reducing agents, acids, alkalis, moisture.

Storage:

Store in a segregated and approved area. Keep container in a cool, well-ventilated area. Keep container tightly closed and sealed until ready for use. Avoid all possible sources of ignition (spark or flame).

Section 8: Exposure Controls and Personal Protection

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:

Safety glasses. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves (impervious).

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

Formaldehyde gas STEL: 0.3 (ppm) from ACGIH (TLV) [United States] STEL: 0.37 (mg/m3) from ACGIH (TLV) [United States] TWA: 0.75 STEL: 2 (ppm) from OSHA (PEL) [United States] TWA: 2 STEL: 2 (ppm) [United Kingdom (UK)] TWA: 2.5 STEL: 2.5 (mg/m3) [United Kingdom (UK)] Methyl alcohol TWA: 200 from OSHA (PEL) [United States] TWA: 200 STEL: 250 (ppm) from ACGIH (TLV) [United States] TWA: 200 STEL: 250 (ppm) from ACGIH (TLV) [United States] [1999] STEL: 250 from NIOSH [United States] TWA: 200 STEL: 250 (ppm) from NIOSH SKIN TWA: 200 STEL: 250 (ppm) [Canada] Consult local authorities for acceptable exposure limits.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid. Odor: Pungent. Suffocating. (Strong.) Taste: Not available. Molecular Weight: 30.02 Color: Clear Colorless. pH (1% soln/water): 3 [Acidic.] pH of the solution as is. Boiling Point: 98°C (208.4°F) Melting Point: -15°C (5°F) Critical Temperature: The lowest known value is 240°C (464°F) (Methyl alcohol). Specific Gravity: 1.08 (Water = 1) Vapor Pressure: 2.4 kPa (@ 20°C) Vapor Density: 1.03 (Air = 1) Volatility: 100% (w/w). Odor Threshold: The highest known value is 100 ppm (Methyl alcohol) Water/Oil Dist. Coeff.: Not available. Ionicity (in Water): Non-ionic. Dispersion Properties: See solubility in water, diethyl ether, acetone. Solubility: Easily soluble in cold water, hot water. Soluble in diethyl ether, acetone, alcohol

Section 10: Stability and Reactivity Data

 Stability: The product is stable.

 Instability Temperature: Not available.

 Conditions of Instability: Heat, ignition sources (flames, sparks), incompatible materials

 Incompatibility with various substances:

 Reactive with oxidizing agents, reducing agents, acids, alkalis. Slightly reactive to reactive with metals.

 Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity:

Also incompatible with urea, phenol, isocyanates, anhydrides, amines, AZO compounds, carbonyl compounds, oxides(e.g. nitrogen dioxide), performic acid, dithiocarbmates, or peroxides. Polymerization can be inhibited by the addition of methanol or stabilizers such as hydorxypropyl methyl cellulose, methyl ethyl celluloses, or isophthalobisguanamine.

Special Remarks on Corrosivity: Not available. Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation.

Toxicity to Animals:

Acute oral toxicity (LD50): 42 mg/kg [Mouse]. (Formaldehyde) Acute dermal toxicity (LD50): 15800 mg/kg [Rabbit]. (Methyl alcohol). Acute toxicity of the mist(LC50): 454000 mg/m 4 hours [Mouse]. (Formaldehyde) 3

Chronic Effects on Humans:

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CARCINOGENIC EFFECTS: Classified A2 (Suspected for human.) by ACGIH, 2A (Probable for human.) by IARC [Formaldehyde]. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. [Formaldehyde]. Mutagenic for bacteria and/or yeast. [Formaldehyde]. Mutagenic for bacteria and/or yeast. [Formaldehyde]. Mutagenic for bacteria and/or yeast. [Methyl alcohol]. TERATOGENIC EFFECTS: Classified POSSIBLE for human [Methyl alcohol]. DEVELOPMENTAL TOXICITY: Not available May cause damage to the following organs: kidneys, liver, central nervous system (CNS).

Other Toxic Effects on Humans:

Very hazardous in case of ingestion, . Hazardous in case of skin contact (irritant, sensitizer, permeator), of eye contact (corrosive), of inhalation (lung corrosive). Slightly hazardous in case of skin contact (corrosive).

Special Remarks on Toxicity to Animals:

Formaldehyde: LD50 [Rabbit] - Route: Skin; Dose: 270 ul/kg

Special Remarks on Chronic Effects on Humans:

Exposure to Formaldehyde and Methanol may affect genetic material (mutagenic). Exposure to Formaldehyde and Methanol may cause adverse reproductive effects and birth defects(teratogenic). Adverse reproductive effects of Formaldehyde as well as Methanol are primarily based on animal studies. Very few human studies have been done on the adverse reproductive effects from exposure to Formaldehyde. Studies produced a weak association (limited evidence) between adverse human female reproductive effects and occupational exposure. Furthermore, no human data could be found on adverse reproductive effects from occupational exposure to Methanol. Exposure to Formaldehyde may cause cancer.

Special Remarks on other Toxic Effects on Humans:

Acute Potential Health Effects: Skin: Corrosive. Causes skin irritation which may range from mild to severe with possible burns depending on the extent of exposure and concentration of solution. Other symptoms may include brownish discoloration of the skin, urticaria, and pustulovesicffular eruptions. May be absorbed through skin with symptoms paralleling those of ingestion. Eyes: Corrosive. Contact with liquid causes severe eye irritation and burns. It may cause irreversible eye damage (severe corneal Solutions containing low formaldehyde concentrations may produce transient discomfort and irritation. Inhalation: Causes irritiation of the respiratory tract (nose, throat, airways). Symptoms may include dry and sore mouth and throat, thirst, and sleep disturbances, difficulty breathing, shortness of breath, coughing, sneezing, wheezing rhinitis, chest tightness, pulmonary edema, bronchitis, tracheitis, laryngospasm, pneumonia, palpitations. It may also affect metabolism weight loss, metabolic acidosis), behavior/central nervous system (excitement, central nervous system depression, somnolence, convulsions, stupor, aggression, headache, weakness, dizziness, drowsiness, coma), peripheral nervous system, and blood. Ingestion: Harmful if swallowed. May be fatal. Causes gastrointestinal irritation or bleeding from stomach. May also affect the liver(jaundice), urinary system/kidneys (difficulty urinating, albuminuria, hematuria, anuria), blood, endocrine system, respiratory contral nervous system (syptoms similar to those for inhalation). Contains Methanol which may cause blindness if swallowed. Chronic Potential Health Effects: Skin: Prolonged or repeated exposure may cause contact dermatitis both irritant and allergic. It may also cause skin discoloration. Inhalation: Although there is no clear evidence, prolonged or repeated exposure may cause gastrointestinal tract irritation on bleeding from the stomach. Other effects are similar to that of acute exposure. Ingestion: Prolonged or repeated ingestion may cause gast

Section 12: Ecological Information

Ecotoxicity: Not available. BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise. Toxicity of the Products of Biodegradation: The products of degradation are less toxic than the product itself.

Special Remarks on the Products of Biodegradation:

Methanol in water is rapidly biodegraded and volatilized. Aquatic hydrolysis, oxidation, photolysis, adsorption to sediment, and bioconcentration are not significant fate processes. The half-life of methanol in surfact water ranges from 24 hrs. to 168 hrs. Based on its vapor pressure, methanol exists almost entirely in the vapor phase in the ambient atmosphere. It is degraded by reaction with photochemically produced hydroxyl radicals and has an estimated half-life of 17.8 days. Methanol is physically removed from air by rain due to its solubility. Methanol can react with NO2 in polluted to form methyl nitrate. The half-life of methanol in air ranges from 71 hrs. (3 days) to 713 hrs. (29.7 days) based on photooxidation half-life in air. (Methyl alcohol)

Section 13: Disposal Considerations

Waste Disposal:

Waste must be disposed of in accordance with federal, state and local environmental control regulations.

Section 14: Transport Information

DOT Classification:

CLASS 3: Flammable liquid. Class 8: Corrosive material Identification: Formaldehyde Solution, flammable (Methyl alcohol) UNNA: 1198 PG: III Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations:

California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer, birth defects or other reproductive harm, which would require a warning under the statute: Formaldehyde California prop. 65 (no significant risk level): Formaldehyde: 0.04 mg/day (inhalation) California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: Formaldehyde California has found to cause cancer which would require a warning under the statute: Formaldehyde Solution Connecticut hazardous material survey.: Formaldehyde; Methyl alcohol Illinois tokic substances disclosure to employee act: Formaldehyde; Methyl alcohol Illinois chemical safety act: Formaldehyde; Methyl alcohol New York release reporting list: Formaldehyde; Methyl alcohol Rhode Island RTK hazardous substances: Formaldehyde; Methyl alcohol Massachusetts spill list: Formaldehyde; Methyl alcohol Massachusetts spill list: Formaldehyde; Methyl alcohol Massachusetts spill list: Formaldehyde; Methyl alcohol New Jersey: Formaldehyde; Methyl alcohol New Jersey spill list: Formaldehyde; Methyl alcohol California Director's List of Hazardous Substances: Formaldehyde; Methyl alcohol TSCA 8(b) inventory: Formaldehyde gas; Methyl alcohol; Water TSCA 4(f) priority risk review: Formaldehyde; Reagent, ACS SARA 302/304/311/312 extremely hazardous substances: Formaldehyde SARA 313 toxic chemical notification and release reporting: Formaldehyde; Methyl alcohol CERCLA: Hazardous substances: Formaldehyde: 100 lbs. (45.36 kg); Methyl alcohol: 5000 lbs. (2268 kg);

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

Other Classifications:

WHMIS (Canada):

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CLASS B-3: Combustible liquid with a flash point between 37.8°C (100°F) and 93.3°C (200°F). CLASS D-1A: Material causing immediate and serious toxic effects (VERY TOXIC). CLASS D-2A: Material causing other toxic effects (VERY TOXIC).

DSCL (EEC): HMIS (U.S.A.):

Health Hazard: 3 Fire Hazard: 2 Reactivity: 0 Personal Protection: G National Fire Protection Association (U.S.A.): Health: 3 Flammability: 2 Reactivity: 0 Specific hazard:

Protective Equipment:

Gloves (impervious). Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Safety glasses.

Section 16: Other Information

References: Not available. Other Special Considerations: Not available.

Last Updated: 07/06/2018 12:00 PM



Elution Buffer

Section 1: Chemical Information

Product Name: DNA Elution Buffer Supplier: Phase Genomics, 1617 8th Ave N, Seattle, WA 98109, 1-833-742-7436 Recommended Use: reagent

Section 2: Composition and Information on Ingredients

Hazard Classification Health Hazards: No known OSHA hazards Not a dangerous substance according to GHS GHS Label Element Hazard Symbol: N/A Hazard Statements: Not a hazardous substance or mixture.

Section 3: Hazard Identification

Substance or Mixture: Mixture of non-hazardous substances.

Section 4: First Aid Measures

General Advice: Wear protective gloves/protective clothing/eye protection/face protection. If Inhaled: If not breathing, give artificial respiration. Consult doctor in case of complaints. In Case of Skin Contact: Wash with soap and water. Generally doesn't irritate. In Case of Eye Contact: Remove contact lenses, if present and easy to do. Continue rinsing. If Swallowed: N/A Most Important Symptoms and Effects, Acute and Delayed: N/A Recommendations for Immediate Medical Attention and Special Treatment: Treat symptomatically.

Section 5: Fire and Explosion Data

Conditions of Flammability: Not flammable or combustible. Suitable Extinguishing Media: Dry powder, CO2, water spray or regular foam. Special Protective Equipment for Firefighters: Wear self-contained breathing apparatus, if necessary. Hazardous Combustion Products: Further Information: N/A Further information: N/A

Section 6: Accidental Release Measures

Personal Precautions: Not required. Environmental Precautions: Do not allow undiluted product to enter sewer/surface or ground water. Emergency Procedures: Evacuate personnel to safe areas and follow emergency response protocols. Methods and Materials for Containment and Cleaning Up: Use inert absorbent material to soak up spill.

See section 7 for information on safe handling. See section 8 for information on PPE. See section 13 for disposal information.

Section 7: Handling and Storage

Precautions for Safe Handling: Provide appropriate exhaust ventilation at places where dust is formed. Conditions for Safe Storage: Store at 2-8°C. Keep container tightly closed in a dry, well-ventilated place. Incompatible Products: N/A

Section 8: Exposure Controls and Personal Protection

Appropriate Engineering Controls: General industrial hygiene practice.

Recommendations for Personal Protective Measures:

Hand Protection: The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves: The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

Eve Protection: N/A

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: N/A

Hygiene Measures: Avoid contact with eyes, skin and clothing. Wash hands thoroughly after using this product.

Special Requirements for Personal Protective Equipment, Protective Clothing, Respirators, etc: N/A

Components with Workplace Control Parameters: N/A

Section 9: Physical and Chemical Properties

Appearance:

Form: Liquid Color: Clear **Odor:** Odorless



Odor Threshold: No data available pH: No data available Melting Point/Freezing Point: No data available Initial Boiling Point/Boiling Range: No data available Flash Point: No data available Evaporation Rate: No data available Flammability (Solid, Gas): No data available Upper/Lower Limits on Flammability and Explosive Limits: Flammability Limit (Upper): No data available Flammability Limit (Lower): No data available Explosive Limit (Upper): No data available Explosive Limit (Lower): No data available Vapor Pressure: No data available Vapor Density: No data available Relative Density: No data available Solubility: Solubility in Water: Not miscible or difficult to mix. Solubility (Other): No data available Partition Coefficient (n-octanol/ water): No data available Auto-Ignition Temperature: No data available

Decomposition Temperature: No data available Viscosity: No data available

Section 10: Stability and Reactivity Data

Reactivity: No data available Chemical Stability: No data available Possibility of Hazardous Reactions: Conditions to Avoid: No data available Materials to Avoid: No data available Hazardous Decomposition Products: No data available

Section 11: Toxicological Information

Information on Likely Routes of Exposure: Inhalation: No data available Ingestion: No data available Skin: No irritant effect. Eyes: No irritant effect. Information on Toxicological Effects: Acute Toxicity: Oral LD50: No data available Inhalation LC50: No data available Dermal LD50: No data available Other Information: 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

Additional information:

The product is not subject to classification according to internally approved calculation methods for preparations: When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

Carcinogenicity:

IARC: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. ACGIH: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.

NTP: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by NTP. OSHA: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.

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 known significant effects or critical hazards.



Persistence and Degradability: No data available Bioaccumulative Potential: No data available Mobility in Soil: No data available PBT and vPvB Assessment: No data available Other Adverse Effects: N/A

General notes: Water hazard class 1 (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Section 13: Disposal Considerations

Recommendation: Smaller quantities can be disposed of with household waste.

Section 14: Transport Information

DOT: Not regulated. IMDG: Not regulated. IATA: Not regulated.

Section 15: Other 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

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

No SARA Hazards Massachusetts Right To Know Components: N/A Pennsylvania Right To Know Components: N/A New Jersey Right To Know Components: N/A California Prop. 65 Components

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

Section 16: Other Information

References: Not available. Other Special Considerations: Not available.

Last Updated: 07/06/2018 12:00 PM



Finishing Enzyme

Section 1: Chemical Information Product Name: Finishing Enzyme Supplier: Phase Genomics, 1617 8th Ave N, Seattle, WA 98109, 1-833-742-7436 Recommended Use: reagent

Section 2: Composition and Information on Ingredients

There are no substances at their given concentration, are considered to be hazardous to health.

Section 3: Hazard Identification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS) HNOC: No Data available Label Elements:

Appearance: Colorless

Physical State: Liquid Odor: Mild

Other information

1.75723 % of the mixture consists of ingredient(s) of unknown toxicity

Section 4: First Aid Measures

General advice

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

Immediate medical attention is required. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove from exposure, lie down. Do not breathe dust/fume/gas/mist/vapors/spray.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact

Wash skin with soap and water.

Remove to fresh air.

Ingestion

Clean mouth with water and drink afterwards plenty of water.

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

Indication of any immediate medical attention and special treatment needed. Note to physicians: Treat symptomatically.

Section 5: Fire and Explosion Data

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

No information available.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

Personal precautions

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment [PPE]

Use personal protection recommended in Section 8.

Environmental precautions

See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. This material and its container must be disposed of as hazardous waste.

Section 7: Handling and Storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. Conditions for safe storage, including any incompatibilities Storage temperature Keep at -20 degrees Celsius. Storage Conditions Keep/store only in original container. Incompatible materials

None known based on information supplied.



Section 8: Exposure Controls and Personal Protection

Exposure Guidelines

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies. Other information

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Showers. Eyewash stations.

Individual protection measures, such as personal protective equipment Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin and body protection

Wear suitable protective clothing and gloves.

Respiratory protection

Use in well ventilated areas.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

Section 9: Physical and Chemical Properties

Physical State: Form: Liquid Color: Clear or colorless Odor: None Property: No information available

Section 10: Stability and Reactivity Data

 Reactivity: No data available.

 Chemical Stability: Stable under normal conditions

 Possibility of Hazardous Reactions: Can react briskly with oxidizers- danger of explosion.

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

 Incompatible Materials: Strong oxidizing agents

 Hazardous Decomposition Products: Thermal decomposition can lead to release of irritating and toxic gases and vapors. Carbon monoxide. Carbon dioxide (CO2).

Section 11: Toxicological Information

Information on likely routes of exposure Inhalation

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

Eye contact

Redness. May cause slight irritation.

Skin contact

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

Ingestion

May cause drowsiness or dizziness. Ingestion causes burns of the upper digestive and respiratory tracts. Symptoms include burning sensation, coughing, wheezing, shortness of breath, headache, nausea, and vomiting.

Section 12: Ecological Information

Ecotoxicity

No information available.

1.75723 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Section 13: Disposal Considerations

Waste treatment methods

Relevant Information

Keep out of drains, sewers, ditches and waterways.

Disposal considerations

Use a licensed professional waste disposal service to dispose of this product. Product may be dissolved in a combustible solvent or absorbed onto a combustible material and burned by a chemical incinerator.

Contaminated packaging

Empty containers must be tripled rinsed prior to disposal.

Section 14: Transport Information

This product is not dangerous and no special precautions are needed according to DOT, ADR/RID (cross border), IMDG and IATA/ICAO.

Section 15: Other Regulatory Information

International Inventories

TSCA: Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
US Federal Regulations

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).



CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

U.S. EPA Label Information

EPA Pesticide Registration Number: Not applicable

Section 16: Other Information

References: Not available. Other Special Considerations: Not available.

Last Updated: 07/06/2018 12:00 PM



Fragmentation Buffer

Section 1: Chemical Information Product Name: Proximo Fragmentation Buffer Supplier: Phase Genomics, 1617 8th Ave N, Seattle, WA 98109, 1-833-742-7436 Recommended Use: Reagent

Section 2: Hazard Identification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS) HNOC: No Data available Label Elements: Appearance: Colorless Physical State: Liquid Odor: Mild

Section 3: Composition and Information on Ingredients

Mixture

There are no substances at their given concentration, are considered to be hazardous to health.

Section 4: First Aid Measures

General advice

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

Immediate medical attention is required. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove from exposure, lie down. Do not breathe dust/fume/gas/mist/vapors/spray.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact

Wash skin with soap and water.

Inhalation Remove to fresh air.

Ingestion

Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed.

Note to physicians: Treat symptomatically.

Section 5: Fire and Explosion Data

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

No information available.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

Personal precautions

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment [PPE]

Use personal protection recommended in Section 8.

Environmental precautions

See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. This material and its container must be disposed of as hazardous waste.

Section 7: Handling and Storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities:

Storage temperature

Keep at -20 degrees Celsius.

Storage Conditions

Keep/store only in original container.

Incompatible materials

None known based on information supplied.

Section 8: Exposure Controls and Personal Protection

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Exposure Guidelines

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies. Appropriate engineering controls

Showers. Eyewash stations.

Individual protection measures, such as personal protective equipment Eye/face protection Wear safety glasses with side shields (or goggles). Skin and body protection

Wear suitable protective clothing and gloves.

Respiratory protection

Use in well ventilated areas.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

Section 9: Physical and Chemical Properties

Physical State: Form: Liquid Color: Clear or colorless Odor: None Property: No information available

Section 10: Stability and Reactivity Data

 Reactivity: No data available.

 Chemical Stability: Stable under normal conditions

 Possibility of Hazardous Reactions: Can react briskly with oxidizers- danger of explosion.

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

 Incompatible Materials: Strong oxidizing agents

 Hazardous Decomposition Products: Thermal decomposition can lead to release of irritating and toxic gases and vapors. Carbon monoxide. Carbon dioxide (CO2).

Section 11: Toxicological Information

Information on likely routes of exposure Inhalation

Inhalation

Data for specific mixture is not available.

Eye contact

Data for specific mixture is not available.

Skin contact Data for specific mixture is not available.

Ingestion

Maybe harmful if swallowed/

Section 12: Ecological Information

Ecotoxicity

99 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Magnesium Chloride 7786-30-3	EC50: >82.7mg/L (72h, Pseudokirchneriella subcapitata)	LC50: =4210mg/L (96h, Gambusia affinis) LC50: 1970 - 3880mg/L (96h, Pimephales promelas)	EC50: =140mg/L (48h, Daphnia magna) EC50: =1400mg/L (24h, Daphnia magna)

All other data unavailable

Section 13: Disposal Considerations

Waste treatment methods

Relevant Information

Keep out of drains, sewers, ditches and waterways.

Disposal considerations

Use a licensed professional waste disposal service to dispose of this product. Product may be dissolved in a combustible solvent or absorbed onto a combustible material and burned by a chemical incinerator.

Contaminated packaging

Empty containers must be tripled rinsed prior to disposal.

Section 14: Transport Information

This product is not dangerous and no special precautions are needed according to DOT, ADR/RID (cross border), IMDG and IATA/ICAO.

Section 15: Other Regulatory Information

International Inventories Page 23 of 66



TSCA: Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

US Federal Regulations

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

U.S. EPA Label Information

EPA Pesticide Registration Number: Not applicable

Section 16: Other Information

References: Not available. Other Special Considerations: Not available.

Last Updated: 07/06/2018 12:00 PM



Fragmentation Enzyme

Section 1: Chemical Information Product Name: Fragmentation Enzyme Supplier: Phase Genomics, 1617 8th Ave N, Seattle, WA 98109, 1-833-742-7436 Recommended Use: Reagent

Section 2: Hazard Identification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS) HNOC: No Data available Label Elements: Appearance: Colorless Physical State: Liquid Odor: Mild

Section 3: Composition and Information on Ingredients

There are no substances at their given concentration, are considered to be hazardous to health.

Section 4: First Aid Measures

General advice

The product contains no substances which at their given concentration, are considered to be hazardous to health. Immediate medical attention is required. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove from exposure, lie down. Do not breathe dust/fume/gas/mist/vapors/spray.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact Wash skin with soap and water.

Inhalation

Remove to fresh air.

Ingestion

Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

Irritation. Redness. Drowsiness. Dizziness.

Indication of any immediate medical attention and special treatment needed.

Note to physicians: Treat symptomatically.

Section 5: Fire and Explosion Data

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

No information available.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

Personal precautions

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment [PPE]

Use personal protection recommended in Section 8.

Environmental precautions

See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. This material and its container must be disposed of as hazardous waste.

Section 7: Handling and Storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage temperature

Keep at -20 degrees Celsius.

Storage Conditions

Keep/store only in original container.

Incompatible materials

None known based on information supplied.

Section 8: Exposure Controls and Personal Protection

Exposure Guidelines

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This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Glycerol 56-81-5	-	TWA: 15 mg/m ³ mist, total particulate TWA: 5 mg/m ³ mist, respirable fraction (vacated) TWA: 10 mg/m ³ mist, total particulate (vacated) TWA: 5 mg/m ³ mist, respirable fraction	-

Other information

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Showers. Eyewash stations.

Individual protection measures, such as personal protective equipment Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin and body protection Wear suitable protective clothing and gloves.

Respiratory protection

Use in well ventilated areas.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

Section 9: Physical and Chemical Properties

Physical State: Form: Liquid Color: Clear or colorless Odor: None Property: No information available

Section 10: Stability and Reactivity Data

Reactivity: No data available.

Chemical Stability: Stable under normal conditions

Possibility of Hazardous Reactions: Can react briskly with oxidizers- danger of explosion.

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

Incompatible Materials: Strong oxidizing agents

Hazardous Decomposition Products: Thermal decomposition can lead to release of irritating and toxic gases and vapors. Carbon monoxide. Carbon dioxide (CO2).

Section 11: Toxicological Information

Information on likely routes of exposure Inhalation

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

Eye contact

Redness. May cause slight irritation.

Skin contact

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

Ingestion

May cause drowsiness or dizziness. Ingestion causes burns of the upper digestive and respiratory tracts. Symptoms include burning sensation, coughing, wheezing, shortness of breath, headache, nausea, and vomiting.

Section 12: Ecological Information

Ecotoxicity

0.26 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Glycerol 56-81-5	-	51 - 57: 96 h Oncorhynchus mykiss mL/L LC50 static	500: 24 h Daphnia magna mg/L EC50
Ethylenediamine tetraacetic acid 60-00-4	1.01: 72 h Desmodesmus subspicatus mg/L EC50	44.2 - 76.5: 96 h Pimephales promelas mg/L LC50 static 34 - 62: 96 h Lepomis macrochirus mg/L LC50 static	113: 48 h Daphnia magna mg/L EC50 Static

All other data unavailable

Section 13: Disposal Considerations

Waste treatment methods

Relevant Information

Keep out of drains, sewers, ditches and waterways.



Disposal considerations

Use a licensed professional waste disposal service to dispose of this product. Product may be dissolved in a combustible solvent or absorbed onto a combustible material and burned by a chemical incinerator.

Contaminated packaging

Empty containers must be tripled rinsed prior to disposal.

Section 14: Transport Information

This product is not dangerous and no special precautions are needed according to DOT, ADR/RID (cross border), IMDG and IATA/ICAO.

Section 15: Other Regulatory Information

International Inventories

TSCA: Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

US Federal Regulations

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

U.S. EPA Label Information

EPA Pesticide Registration Number: Not applicable

Section 16: Other Information

References: Not available. Other Special Considerations: Not available.

Last Updated: 07/06/2018 12:00 PM



Frag/AT Buffer, Frag/AT Enzymes, Adapter Ligation Mix, Hot Start PCR Mix

Section 1: Chemical Information

Product Name: Frag/AT Buffer, Frag/AT Enzymes, Adapter Ligation Mix, Hot Start PCR Mix Recommended Use: reagent

Supplier: Phase Genomics, 1617 8th Ave N, Seattle, WA 98109, 1-833-742-7436

Section 2: Composition and Information on Ingredients

There are no substances at their given concentration, are considered to be hazardous to health. Label Elements: Appearance: Colorless Physical State: Liquid Chemical Characterization: Solution(s) consisting of the following component: Glycerol- 20-60% CAS: 56-81-5 Components not listed are not considered dangerous at their utilizedconcentrations.

Section 3: Hazard Identification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS) Glycerol, CAS No. 56-81-5, 30-60% by weight

Section 4: First Aid Measures

General advice

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

Immediate medical attention is required. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove from exposure, lie down. Do not breathe dust/fume/gas/mist/vapors/spray.

Eye contact

Rinse eyes with water for at least 15 minutes. If irritation persists seek medical attention

Skin contact

Wash skin with soap and water. if irritation persists seek medical attention.

Inhalation

Move to fresh air, if irritation persists seek medical attention.

Ingestion

Rinse mouth with water if the person is conscious. Do not inducevomiting unless instructed to do so by a medical professional. If irritationpersists seek medical attention. Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed. Note to physicians: Treat symptomatically.

Note to physicians: Treat symptoma

Section 5: Fire and Explosion Data

Suitable extinguishing media

Water, Water spray (fog), Foam, Dry chemical, Carbon dioxide (CO2)

Unsuitable extinguishing media

N/A

Specific hazards arising from the chemical

N/A

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

Personal precautions

Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required.

Personal protective equipment [PPE]

Use personal protection recommended in Section 8.

Environmental precautions

See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. This material and its container must be disposed of as hazardous waste.

Section 7: Handling and Storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage temperature

Keep container tightly closed in a dry and well-ventilated place. Keep/store only in original container. Store away from incompatible materials.

Storage Conditions

Keep container tightly closed. Keep/store only in original container. Store away from incompatible materials. Store at -15° C to -25° C (5° F to -13° F). Incompatible materials

Strong oxidizing agents.

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Section 8: Exposure Controls and Personal Protection

Exposure Guidelines Glycerol, 56081-5

OSHA PEL:

TWA: 15 mg/m3 mist, total particulate TWA: 5 mg/m3 mist, respirable fraction TWA: 10 mg/m3 mist, total particulate TWA: 5 mg/m3 mist, respirable fraction OSHA PEL (Ceiling): n/a ACGIH OEL (STEL): n/a

Other information: N/A

Appropriate engineering controls

Showers. Eyewash stations.

Individual protection measures, such as personal protective equipment Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin and body protection

Wear suitable protective clothing and gloves.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

Section 9: Physical and Chemical Properties

Physical State: Form: Liquid Color: Clear or colorless Odor: Mild Property: No information available pH: 6.0-9.0 Water Solubility: Fully Miscible Partition Coefficient: Data not available Molecular Weight: Data not available Density: Data not available Viscosity: Data not available Specific Gravity: Data not available Melting Point/Freezing Point: Data not available Boiling Point/Boiling Range: Data not available Evaporation Rate: Data not available Flash Point: Data not available Flammability: Product is not self igniting. Autoignition Temperature: Data not available Decomposition Temperature: Data not available Vapor Pressure: Data not available Vapor Density: Data not available Upper Explosion Limit: Data not available Lower Explosion Limit: Data not available Explosive Properties: Product does not possess explosive properties. Oxidizing Properties: Data not available Odor Threshold: Data not available

Section 10: Stability and Reactivity Data

Reactivity: The product is stable and non-reactive under normal conditions of use, storage and transport. Chemical Stability: Stable under normal conditions Possibility of Hazardous Reactions: N/A Conditions to Avoid: N/A Incompatible Materials: Strong oxidizing agents Hazardous Decomposition Products: None known based on information supplied.

Section 11: Toxicological Information

Low hazard for usual industrial or commercial handling by trained personnel

Information on likely routes of exposure Inhalation

Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Eye contact

May cause slight irritation Skin contact

May cause slight irritation.

Ingestion

May cause irritation of the digestive tract resulting in nausea and vomiting.



Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Glycerol (56-81-5)	=12,600 mg/kg (Rat)	>10 g/kg (Rabbit)	>570 mg/m ³ (Rat) 1h

Skin corrosion/irritation Mild Serious eye damage/eye irritation Mild Irritation: Mild Mild Corrosivity: Reproductive Toxicity: No information available Developmental Toxicity: No information available Skin or Respiratory Sensitization: No information available Carcinogenicity: No information available Germ Cell Mutagenicity: No information available Aspiration Hazard: No information available Specific Target Organ Toxicity(STOT) Single Exposure: No information available Specific Target Organ Toxicity(STOT) Repeated Exposure: No information available

Section 12: Ecological Information

Ecotoxicity

This product does not contain any substances known to be hazardous to the environment.

Chemical Name	Algae/aquatic plants	Fish	Crustacea	
Glycerol 56-81-5	-	51 - 57 mL/L: LC50 96 h Oncorhynchus mykiss static	500 mg/L: EC50 24 h Daphnia magna	

Mobility in Soil: No available data

Persistence and Degradability: No available data

Bioaccumulation: No available data

PBT vPvB Assessment: This product does not contain any materials that are assessed to be a PBT or a vPvB.

Other Adverse Effects: No available data

Section 13: Disposal Considerations

Waste treatment methods

Relevant Information

Disposal should be in accordance with applicable regional, national and local laws and regulations. Keep out of drains, sewers, and waterways.

Contaminated packaging

Do not reuse container. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14: Transport Information

This product is not dangerous and no special precautions are needed according to DOT, ADR/RID (cross border), IMDG and IATA/ICAO.

Section 15: Other Regulatory Information

US Federal Regulations

SARA 313: This product is not regulated by SARA.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR61): This product does not contain any HAPs. Clean Water Act (CWA) (see 40 CFR 122.21 and 40 CFR 122.42): This product does not contain any pollutant substances

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals. U.S. State Right-to-Know Regulations Glycerol (56-81-5) U.S. EPA Label Information

EPA Pesticide Registration Number: Not applicable

WHMIS Hazard Class:

Not Controlled.



This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR

Section 16: Other Information

References: Not available. Other Special Considerations: Not available.

Last Updated: 11/19/2020 2:00 PM



Index Mix, Universal Adapter

Section 1: Chemical Information Product Name: PCR Index Mix Recommended Use: reagent Supplier: Phase Genomics, 1617 8th Ave N, Seattle, WA 98109, 1-833-742-7436

Section 2: Composition and Information on Ingredients

There are no substances at their given concentration, are considered to be hazardous to health.

Label Elements:

Appearance: Colorless Physical State: Liquid Odor: odorless

Section 3: Hazard Identification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS) HNOC: No Data available

Section 4: First Aid Measures

General advice

The product contains no substances which at their given concentration, are considered to be hazardous to health. Immediate medical attention is required. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove from exposure, lie down. Do not breathe dust/fume/gas/mist/vapors/spray.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact Wash skin with soap and water.

Inhalation

Move to fresh air.

Ingestion Get medical attention

Most important symptoms and effects, both acute and delayed No information available. Indication of any immediate medical attention and special treatment needed.

Note to physicians: Treat symptomatically.

Section 5: Fire and Explosion Data

Suitable extinguishing media

Water, Water spray (fog), Foam, Dry chemical, Carbon dioxide (CO2) Unsuitable extinguishing media

N/A

Specific hazards arising from the chemical

N/A

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

Personal precautions

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment [PPE]

Use personal protection recommended in Section 8.

Environmental precautions

See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. This material and its container must be disposed of as hazardous waste.

Section 7: Handling and Storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage temperature

Keep container tightly closed in a dry and well-ventilated place. Keep/store only in original container. Store away from incompatible materials.

Storage Conditions

Keep/store only in original container.

Incompatible materials

Strong oxidizing agents.

Section 8: Exposure Controls and Personal Protection

Exposure Guidelines Page 32 of 66



This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies. Other information

N/A

Appropriate engineering controls

Showers. Eyewash stations.

Individual protection measures, such as personal protective equipment Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin and body protection

Wear suitable protective clothing and gloves.

Respiratory protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

Section 9: Physical and Chemical Properties

Physical State: Form: Liquid Color: Clear or colorless Odor: None

Property: No information available

Section 10: Stability and Reactivity Data

Reactivity: The product is stable and non-reactive under normal conditions of use, storage and transport. Chemical Stability: Stable under normal conditions Possibility of Hazardous Reactions: None under normal processing. Conditions to Avoid: N/A Incompatible Materials: Strong oxidizing agents Hazardous Decomposition Products: None known based on information supplied.

Section 11: Toxicological Information

Low hazard for usual industrial or commercial handling by trained professional.

Information on likely routes of exposure Inhalation

Under normal conditions of intended use, this material is not expected to be an inhalation hazard.

Eye contact

Redness. May cause slight irritation.

Skin contact

Prolonged contact may cause redness and irritation.

Ingestion

No harmful effects expected in amounts likely to be ingested by accident.

Section 12: Ecological Information

Ecotoxicity

0 % of the mixture consists of components(s) of unknown hazards to the aquatic environment

Persistence and degradability

Not a PBT or vPvB substance or mixture.

Bioaccumulation

No data available Mobility

No data available

Other adverse effects No data available

Section 13: Disposal Considerations

Waste treatment methods

Relevant Information

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging

Do not reuse container. Disposal should be in accordance with applicable regional, national and local laws and regulations.

Section 14: Transport Information

This product is not dangerous and no special precautions are needed according to DOT, ADR/RID (cross border), IMDG and IATA/ICAO.

Section 15: Other Regulatory Information

International Inventories			
TSCA	Does not comply		
DSL/NDSL	Does not comply		
EINECS/ELINCS	Does not comply		
ENCS	Does not comply		
IECSC	Does not comply		



Does not comply
Does not comply
Does not comply

US Federal Regulations SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

 Acute health hazard
 No

 Chronic Health Hazard
 No

 Fire hazard
 No

 Sudden release of pressure hazard No

 Reactive Hazard
 No

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

This product does not contain any substances regulated by state right-to-know regulations

U.S. EPA Label Information

EPA Pesticide Registration Number: Not applicable

Section 16: Other Information

References: Not available. Other Special Considerations: Not available.

Last Updated: 07/06/2018 12:00 PM



Ligation Buffer

Section 1: Chemical Information

Product Name: Ligation Buffer Supplier: Phase Genomics, 1617 8th Ave N, Seattle, WA 98109, 1-833-742-7436 Recommended Use: reagent

Section 2: Composition and Information on Ingredients

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

Section 3: Hazard Identification

Potential Acute Health Effects: none

Potential Chronic Health Effects: None

Section 4: First Aid Measures

Eye Contact: Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin Contact: Wash skin with soap and water.

Inhalation: Remove to fresh air. Ingestion: Clean mouth with water and drink afterwards plenty of water.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable Fire Hazards in Presence of Various Substances:

Non-flammable

Explosion Hazards in Presence of Various Substances: No information available

Fire Fighting Media and Instructions: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Special Remarks on Fire Hazards:

No information available

Special Remarks on Explosion Hazards: None

Section 6: Accidental Release Measures

Small Spill:

Dilute with water and mop up or absorb and place in an appropriate waste disposal container.

Large Spill:

Dilute with water and mop up or absorb and place in an appropriate waste disposal container.

Section 7: Handling and Storage

Precautions: Handle in accordance with good industrial hygiene and safety practice. **Storage:** Keep/store only in original container.

Section 8: Exposure Controls and Personal Protection

Engineering Controls:

Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection: Safety glasses. Lab coat. Gloves

Personal Protection in Case of a Large Spill:

Safety glasses. Lab coat. Gloves

Exposure Limits:

No information available.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid. Odor: Mild Taste Not available. Molecular Weight: No information available Color: Clear Colorless. pH (1% soln/water): No information available Boiling Point: No information available Melting Point: No information available Critical Temperature: No information available Specific Gravity: No information available Vapor Pressure: No information available Vapor Density: No information available Volatility: 100% (w/w). Odor Threshold: No information available Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): No information available



Dispersion Properties: No information available Solubility: No information available

Section 10: Stability and Reactivity Data

Stability: The product is stable. Instability Temperature: Not available. Conditions of Instability: No information available Incompatibility with various substances: Strong oxidizing agents Corrosivity: No information available

Special Remarks on Reactivity: Thermal decomposition can lead to release of irritating and toxic gases and vapors. Carbon monoxide. Carbon dioxide (CO2). Special Remarks on Corrosivity: Not available. Polymerization: Will not occur.

Section 11: Toxicological Information

Routes of Entry: Absorbed through skin. Dermal contact. Eye contact. Inhalation. Toxicity to Animals:

None

Chronic Effects on Humans:

None

Other Toxic Effects on Humans: May cause drowsiness or dizziness. Ingestion causes burns of the upper digestive and respiratory tracts. Symptoms include burning sensation, coughing, wheezing, shortness of breath, headache, nausea, and vomiting.

Section 12: Ecological Information

Ecotoxicity: 8.16 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
U		4210: 96 h Gambusia affinis mg/L LC50 static 1970 - 3880: 96 h Pimephales promelas mg/L LC50 static	-	140: 48 h Daphnia magna mg/L EC50 Static 1400: 24 h Daphnia magna mg/L EC50

Products of Biodegradation:

No information available

Section 13: Disposal Considerations

Waste Disposal: Use a licensed professional waste disposal service to dispose of this product. Product may be dissolved in a combustible solvent or absorbed onto a combustible material and burned by a chemical incinerator.

Section 14: Transport Information

DOT Classification: Not regulated

Special Provisions for Transport: Not available.

Section 15: Other Regulatory Information

Federal and State Regulations: CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Other Regulations:

OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200). EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances.

CERCLA: This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level

Section 16: Other Information

References: Not available. Other Special Considerations: Not available.

Last Updated: 07/06/2018 12:00 PM



Ligation Enzyme

Section 1: Chemical Information Product Name: Ligation Enzyme Supplier: Phase Genomics, 1617 8th Ave N, Seattle, WA 98109, 1-833-742-7436 Recommended Use: reagent

Section 2: Composition and Information on Ingredients

There are no substances at their given concentration, are considered to be hazardous to health.

Section 3: Hazard Identification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS) HNOC: No Data available Label Elements: Appearance: Colorless Physical State: Liquid Odor: Mild

Section 4: First Aid Measures

General advice

The product contains no substances which at their given concentration, are considered to be hazardous to health. Immediate medical attention is required. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove from exposure, lie down. Do not breathe dust/fume/gas/mist/vapors/spray.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact Wash skin with soap and water.

Inhalation

Remove to fresh air.

Ingestion

Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

No information available.

Indication of any immediate medical attention and special treatment needed. Note to physicians: Treat symptomatically.

Section 5: Fire and Explosion Data

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical No information available.

Protective equipment and precautions for firefighters

Protective equipment and precautions for fireigniters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

Personal precautions

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment [PPE]

Use personal protection recommended in Section 8.

Environmental precautions

See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. This material and its container must be disposed of as hazardous waste.

Section 7: Handling and Storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage temperature

Keep at -20 degrees Celsius.

Storage Conditions

Keep/store only in original container.

Incompatible materials

None known based on information supplied

Section 8: Exposure Controls and Personal Protection

Exposure Guidelines

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1-833-PHAS-GEN

support@phasegenomics.com



This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Other information

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls Showers. Eyewash stations.

Individual protection measures, such as personal protective equipment Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin and body protection

Wear suitable protective clothing and gloves.

Respiratory protection

Use in well ventilated areas.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

Section 9: Physical and Chemical Properties

Physical State: Form: Liquid Color: Clear or colorless Odor: None Property: No information available

Section 10: Stability and Reactivity Data

Reactivity: No data available. Chemical Stability: Stable under normal conditions Possibility of Hazardous Reactions: Can react briskly with oxidizers- danger of explosion. Conditions to Avoid: Incompatible materials, ignition sources, heat. Incompatible Materials: Strong oxidizing agents Hazardous Decomposition Products: Thermal decomposition can lead to release of irritating and toxic gases and vapors. Carbon monoxide. Carbon dioxide (CO2).

Section 11: Toxicological Information

Information on likely routes of exposure Inhalation

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

Eye contact

Redness. May cause slight irritation.

Skin contact

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

Ingestion

May cause drowsiness or dizziness. Ingestion causes burns of the upper digestive and respiratory tracts. Symptoms include burning sensation, coughing, wheezing, shortness of breath, headache, nausea, and vomiting.

Section 12: Ecological Information

Ecotoxicity

0.18 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Glycerol 56-81-5	-	51 - 57: 96 h Oncorhynchus mykiss mL/L LC50 static	500: 24 h Daphnia magna mg/L EC50
Potassium Chloride 7447-40-7	2500: 72 h Desmodesmus subspicatus mg/L EC50	1060: 96 h Lepomis macrochirus mg/L LC50 static 750 - 1020: 96 h Pimephales promelas mg/L LC50 static	825: 48 h Daphnia magna mg/L EC50 83: 48 h Daphnia magna mg/L EC50 Static
Ethylenediamine tetraacetic acid 60- 00-4	1.01: 72 h Desmodesmus subspicatus mg/L EC50	44.2 - 76.5: 96 h Pimephales promelas mg/L LC50 static 34 - 62: 96 h Lepomis macrochirus mg/L LC50 static	113: 48 h Daphnia magna mg/L EC50 Static

All other data unavailable

Section 13: Disposal Considerations

Waste treatment methods

Relevant Information

Keep out of drains, sewers, ditches and waterways.

Disposal considerations

Use a licensed professional waste disposal service to dispose of this product. Product may be dissolved in a combustible solvent or absorbed onto a combustible material and burned by a chemical incinerator.

Contaminated packaging

Empty containers must be tripled rinsed prior to disposal.



Section 14: Transport Information

This product is not dangerous and no special precautions are needed according to DOT, ADR/RID (cross border), IMDG and IATA/ICAO.

Section 15: Other Regulatory Information

International Inventories

TSCA: Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

US Federal Regulations

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

U.S. EPA Label Information

EPA Pesticide Registration Number: Not applicable

Section 16: Other Information

References: Not available. Other Special Considerations: Not available.

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Lysis Buffer 1

Section 1: Chemical Information Product Name: Lysis Buffer Supplier: Phase Genomics, 1617 8th Ave N, Seattle, WA 98109, 1-833-742-7436 Recommended Use: Reagent

Section 2: Hazard Identification

GHS – Classification: Signal Word: WARNING



 Hazards of product:
 Serious Eye Damage/Eye Irritation
 Category 2

 Physical Hazards:
 not hazardous
 Category 2

Hazard statements H319 - Causes serious eye irritation H402 - Harmful to aquatic life

Precautionary statements

P264 - Wash hands thoroughly after handling
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention
P273 - Avoid release to the environment

Label Elements: Appearance: Colorless Physical State: Liquid Odor: Mild

Potential Effects of a Single Acute Exposure

Inhalation: May be harmful by inhalation. Eye Contact: May cause eye irritation with susceptible persons. Skin Contact: May cause skin irritation in susceptible persons. Skin Absorption: No evidence of harmful effects from available information. Ingestion: May be harmful if swallowed. HMIS:

Health	1
Flammability	0
Reactivity	0

Section 3: Composition and Information on Ingredients

 Component
 CAS #
 %W/W

 Triton X-100
 9036-19-5
 1%

Section 4: First Aid Measures

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If symptoms persist, call a physician.

Skin contact

Rinse with plenty of water. If symptoms arise, call a physician



Inhalation

Move to fresh air. If symptoms persist, call a physician. If not breathing, give artificial respiration.

Ingestion

-

Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Do not induce vomiting without medical advice.

Notes to Physician

Treat symptomatically.

Section 5: Fire and Explosion Data

Suitable extinguishing media

Water spray. Carbon dioxide (CO2). Foam. Dry chemical.

Specific hazards arising from the chemical

No information available.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

Personal precautions

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment [PPE]

Use personal protection recommended in Section 8.

Environmental precautions

See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. This material and its container must be disposed of as hazardous waste.

Section 7: Handling and Storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Storage temperature

Keep at -20 degrees Celsius.

Storage Conditions

Keep/store only in original container.

Incompatible materials

None known based on information supplied.

Section 8: Exposure Controls and Personal Protection

Exposure Guidelines

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Triton X-100	-	-	-

Appropriate engineering controls

Showers. Eyewash stations. Ensure adequate ventilation, especially in confined areas. Individual protection measures, such as personal protective equipment Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin and body protection

Wear suitable protective clothing and gloves.

Respiratory protection

Use in well ventilated areas. In case of insufficient ventilation wear suitable respiratory equipment.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

Section 9: Physical and Chemical Properties

Physical State: Form: Liquid Color: Clear or colorless Odor: None Property: No information available

Section 10: Stability and Reactivity Data

Reactivity: No data available.

Chemical Stability: Stable under normal conditions Possibility of Hazardous Reactions: Can react briskly with oxidizers- danger of explosion.



Conditions to Avoid: Incompatible materials, ignition sources, heat. Incompatible Materials: Strong oxidizing agents Hazardous Decomposition Products: None under normal use

Section 11: Toxicological Information

Acute Toxicity

Chemical Name	LD50 (oral,rat/mouse)	LD50 (dermal,rat/rabbit)	LC50 (inhalation,rat/mouse)
Triton X-100	= 1800 mg/kg (Rat)	no data available	no data available

Information on likely routes of exposure Inhalation

Avoid breathing vapors or mists. May cause irritation of respiratory tract. Eye contact

May cause eye irritation with susceptible persons.

Skin contact

May cause skin irritation in susceptible persons.

Inhalation May be harmful by inhalation.

Ingestion

May be harmful if swallowed.

Section 12: Ecological Information

Ecotoxicity

No information available. Acute aquatic toxicity

Category 3 Chronic aquatic toxicity

Not classified chronic

Mobility

No information available.

Biodegradation Inherently biodegradable

Hazardous decomposition products

None under normal use

Bioaccumulation

Does not bioaccumulate.

Section 13: Disposal Considerations

Waste treatment methods

Relevant Information

Keep out of drains, sewers, ditches and waterways. Disposal considerations

Use a licensed professional waste disposal service to dispose of this product. Product may be dissolved in a combustible solvent or absorbed onto a combustible material and burned by a chemical incinerator.

Contaminated packaging

Empty containers must be tripled rinsed prior to disposal.

Section 14: Transport Information

This product is not dangerous and no special precautions are needed according to DOT, ADR/RID (cross border), IMDG and IATA/ICAO.

Section 15: Other Regulatory Information

International Inventories TSCA Listed: Triton X-100 9002-93-1 (1) Legend: TSCA - United States Toxic Substances Control Act Section 8(b) Inventory <u>US Federal Regulations</u> SARA 313

This product is not regulated by SARA.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61) This product does not contains HAPs. <u>US State Regulations</u> California Proposition 65 This product does not contain any Proposition 65 chemicals. U.S. State Right-to-Know Regulations U.S. SFPA Label Information EPA Pesticide Registration Number: Not applicable



WHMIS Hazard Class

D2B Toxic materials

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR

Section 16: Other Information

References: Not available. Other Special Considerations: Not available.

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Lysis Buffer 2

Section 1: Chemical Information Product Name: Lysis Buffer 2 Supplier: Phase Genomics, 1617 8th Ave N, Seattle, WA 98109, 1-833-742-7436 Recommended Use: reagent

Section 2: Composition and Information on Ingredients

There are no substances at their given concentration, are considered to be hazardous to health.

Section 3: Hazard Identification

Sodium dodecyl sulfate solution Cas # 151-21-3

Section 4: First Aid Measures

General Advice: Wear protective gloves/protective clothing/eye protection/face protection. If Inhaled: If not breathing, give artificial respiration. Consult doctor in case of complaints. In Case of Skin Contact: Wash with soap and water. Generally doesn't irritate. In Case of Eye Contact: Remove contact lenses, if present and easy to do. Continue rinsing. If Swallowed: N/A Most Important Symptoms and Effects, Acute and Delayed: N/A Recommendations for Immediate Medical Attention and Special Treatment: Treat symptomatically.

Section 5: Fire and Explosion Data

Conditions of Flammability: Not flammable or combustible. Suitable Extinguishing Media: Dry powder, CO2, water spray or regular foam. Special Protective Equipment for Firefighters: Wear self-contained breathing apparatus, if necessary. Hazardous Combustion Products: Further Information: N/A Further information: N/A

Section 6: Accidental Release Measures

Personal Precautions: Not required.

Environmental Precautions: Do not allow undiluted product to enter sewer/surface or ground water. Emergency Procedures: Evacuate personnel to safe areas and follow emergency response protocols. Methods and Materials for Containment and Cleaning Up: Use inert absorbent material to soak up spill. See section 7 for information on safe handling. See section 8 for information on PPE. See section 13 for disposal information.

Section 7: Handling and Storage

Precautions for Safe Handling: Provide appropriate exhaust ventilation at places where dust is formed. Conditions for Safe Storage: Store at 2-8°C. Keep container tightly closed in a dry, well-ventilated place. Incompatible Products: N/A

Section 8: Exposure Controls and Personal Protection

Appropriate Engineering Controls: General industrial hygiene practice.

Recommendations for Personal Protective Measures:

Hand Protection: The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves: The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

Eye Protection: N/A

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: N/A

nespiratory Protection:

Hygiene Measures: Avoid contact with eyes, skin and clothing. Wash hands thoroughly after using this product.

Special Requirements for Personal Protective Equipment, Protective Clothing, Respirators, etc: N/A

Components with Workplace Control Parameters: N/A

Section 9: Physical and Chemical Properties

Appearance:

Form: Liquid Color: Clear Odor: Odorless Odor Threshold: No data available pH: No data available Melting Point/Freezing Point: No data available

Initial Boiling Point/Prezing Point. No data available Flash Point: No data available



Evaporation Rate: No data available Flammability (Solid, Gas): No data available Upper/Lower Limits on Flammability and Explosive Limits: Flammability Limit (Upper): No data available Flammability Limit (Lower): No data available Explosive Limit (Upper): No data available Explosive Limit (Lower): No data available Vapor Pressure: No data available Vapor Density: No data available Relative Density: No data available Solubility: Solubility in Water: Not miscible or difficult to mix. Solubility (Other): No data available Partition Coefficient (n-octanol/ water): No data available Auto-Ignition Temperature: No data available Decomposition Temperature: No data available

Section 10: Stability and Reactivity Data

Viscosity: No data available

Reactivity: No data available Chemical Stability: No data available Possibility of Hazardous Reactions: Conditions to Avoid: No data available Materials to Avoid: No data available Hazardous Decomposition Products: Carbon monoxide, Carbon dioxide, Sulfur oxides, Sodium oxides.

Section 11: Toxicological Information

Information on Likely Routes of Exposure: Inhalation: No data available Ingestion: No data available Skin: No irritant effect. Eyes: No irritant effect. Information on Toxicological Effects:

Acute Toxicological Effect

, Oral LD50: No data available Inhalation LC50: No data available Dermal LD50: No data available

Other Information: 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 component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. ACGIH: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH.

NTP: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by NTP. OSHA: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA. 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: The sodium salt of dodecyl sulfate has been reported to cause pulmonary sensitization resulting in hyperactive airway. Dysfunction and pulmonary allergy accompanied by fatigue, malaise, and aching. Significant symptoms of exposure can persist for more than two years and can be activated by a variety of nonspecific environmental stimuli such as automobile. Exhaust, perfumes, and passive smoking. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Synergistic Effects: No data available

Additional Information: No data available

Section 12: Ecological Information

Toxicity: No known significant effects or critical hazards. Persistence and Degradability: No data available Bioaccumulative Potential: No data available Mobility in Soil: No data available PBT and vPvB Assessment: No data available Other Adverse Effects: N/A General notes: N/A



Section 13: Disposal Considerations

Dispose unused material. Observe regulations.

Section 14: Transport Information

DOT: Not regulated. IMDG: Not regulated. IATA: Not regulated.

Section 15: Other 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 This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section

313.

SARA 311/312 Hazards

No SARA Hazards Massachusetts Right To Know Components: N/A Pennsylvania Right To Know Components: N/A New Jersey Right To Know Components: N/A

California Prop. 65 Components

California Prop. 65 Components

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

Section 16: Other Information

References: Not available. Other Special Considerations: Not available.

Last Updated: 07/06/2018 12:00 PM

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Quenching Solution

Section 1: Chemical Information Product Name: Quenching Solution Identified uses: Laboratory chemicals, Synthesis of substances Supplier: Phase Genomics, 1617 8th Ave N, Seattle, WA 98109, 1-833-742-7436

Section 2: Composition and Information on Ingredients

Hazard Classification Health Hazards: No known OSHA hazards Not a dangerous substance according to GHS GHS Label Element Hazard Symbol: N/A

Hazard Statements: Not a hazardous substance or mixture.

Section 3: Hazard Identification

Substance or Mixture: Mixture of non-hazardous substances.

Section 4: First Aid Measures

General Advice: Wear protective gloves/protective clothing/eye protection/face protection. If Inhaled: If not breathing, give artificial respiration. In Case of Skin Contact: Wash with soap and water. In Case of Eye Contact: Remove contact lenses, if present and easy to do. Continue rinsing. If Swallowed: N/A Most Important Symptoms and Effects, Acute and Delayed: N/A Recommendations for Immediate Medical Attention and Special Treatment: Treat symptomatically. Symptoms may be delayed.

Section 5: Fire and Explosion Data

Conditions of Flammability: Not flammable or combustible. Suitable Extinguishing Media: Dry powder, CO2, water spray or regular foam. Special Protective Equipment for Firefighters: Wear self-contained breathing apparatus, if necessary. Hazardous Combustion Products: Further Information: N/A Further information: N/A

Section 6: Accidental Release Measures

Personal Precautions: Avoid dust formation. Avoid breathing vapors. See Section 8: Exposure Controls/ Personal Protection for more information. Environmental Precautions: Do not allow undiluted product to enter sewer/surface or ground water. Emergency Procedures: Evacuate personnel to safe areas and follow emergency response protocols. Methods and Materials for Containment and Cleaning Up: Use inert absorbent material to soak up spill.

Section 7: Handling and Storage

Precautions for Safe Handling: Provide appropriate exhaust ventilation at places where dust is formed. Conditions for Safe Storage: Store at 2-8°C. Keep container tightly closed in a dry, well-ventilated place. Incompatible Products: N/A

Section 8: Exposure Controls and Personal Protection

Appropriate Engineering Controls: General industrial hygiene practice.

Recommendations for Personal Protective Measures:

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: N/A

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: N/A

Hygiene Measures: Avoid contact with eyes, skin and clothing. Wash hands thoroughly after using this product. Special Requirements for Personal Protective Equipment, Protective Clothing, Respirators, etc: N/A Components with Workplace Control Parameters: N/A

Section 9: Physical and Chemical Properties

Appearance:

Form: Liquid Color: Clear Odor: No data available Odor Threshold: No data available pH: No data available Melting Point/Freezing Point: No data available Initial Boiling Point/Boiling Range: No data available Flash Point: No data available Evaporation Rate: No data available Flammability (Solid, Gas): No data available



Upper/Lower Limits on Flammability and Explosive Limits:

Flammability Limit (Upper): No data available Flammability Limit (Lower): No data available Explosive Limit (Upper): No data available Explosive Limit (Lower): No data available Vapor Pressure: No data available Vapor Density: No data available Relative Density: No data available Solubility:

Solubility in Water: No data available Solubility (Other): No data available Partition Coefficient (n-octanol/ water): No data available Auto-Ignition Temperature: No data available Decomposition Temperature: No data available Viscosity: No data available

Section 10: Stability and Reactivity Data

Reactivity: No data available Chemical Stability: No data available Possibility of Hazardous Reactions: Conditions to Avoid: No data available Materials to Avoid: No data available Hazardous Decomposition Products: No data available

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 LC50: No data available Dermal LD50: No data available

Other Information: 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 component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. ACGIH: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH. NTP: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by NTP. OSHA: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA. 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 known significant effects or critical hazards. Persistence and Degradability: No data available Bioaccumulative Potential: No data available Mobility in Soil: No data available PBT and vPvB Assessment: No data available Other Adverse Effects: N/A

Section 13: Disposal Considerations

Contaminated Packaging: Disposal must be made according to official regulations.

Section 14: Transport Information DOT: Not regulated.



IMDG: Not regulated. IATA: Not regulated.

Section 15: Other 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

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

No SARA Hazards

Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

Pennsylvania Right To Know Components

Glycine CAS-No. 56-40-6

New Jersey Right To Know Components Glycine CAS-No. 56-40-6

California Prop. 65 Components

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

Section 16: Other Information

References: Not available. Other Special Considerations: Not available.

Last Updated: 07/06/2018 12:00 PM

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RX Enzyme

Section 1: Chemical Information Product Name: RX Enzyme Supplier: Phase Genomics, 1617 8th Ave N, Seattle, WA 98109, 1-833-742-7436 Recommended Use: reagent

Section 2: Composition and Information on Ingredients

There are no substances at their given concentration, are considered to be hazardous to health.

Section 3: Hazard Identification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS) HNOC: No Data available Label Elements:

Appearance: Colorless

Physical State: Liquid Odor: Mild

Other information

2.19 % of the mixture consists of ingredient(s) of unknown toxicity

Section 4: First Aid Measures

General advice

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

Immediate medical attention is required. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove from exposure, lie down. Do not breathe dust/fume/gas/mist/vapors/spray.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact

Wash skin with soap and water.

Remove to fresh air.

Ingestion

Clean mouth with water and drink afterwards plenty of water.

Most important symptoms and effects, both acute and delayed

No information available. Indication of any immediate medical attention and special treatment needed. Note to physicians: Treat symptomatically.

Section 5: Fire and Explosion Data

Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

No information available.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

Personal precautions

Ensure adequate ventilation, especially in confined areas.

Personal protective equipment [PPE]

Use personal protection recommended in Section 8.

Environmental precautions

See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up

Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. This material and its container must be disposed of as hazardous waste.

Section 7: Handling and Storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. Conditions for safe storage, including any incompatibilities Storage temperature Keep at -20 degrees Celsius. Storage Conditions Keep/store only in original container. Incompatible materials

None known based on information supplied.



Section 8: Exposure Controls and Personal Protection

Exposure Guidelines

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies. Other information

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Showers. Eyewash stations.

Individual protection measures, such as personal protective equipment Eye/face protection

Wear safety glasses with side shields (or goggles).

Skin and body protection

Wear suitable protective clothing and gloves.

Respiratory protection

Use in well ventilated areas.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice.

Section 9: Physical and Chemical Properties

Physical State: Form: Liquid Color: Clear or colorless Odor: None Property: No information available

Section 10: Stability and Reactivity Data

Reactivity: No data available. Chemical Stability: Stable under normal conditions Possibility of Hazardous Reactions: Can react briskly with oxidizers- danger of explosion. Conditions to Avoid: Incompatible materials, ignition sources, heat. Incompatible Materials: Strong oxidizing agents Hazardous Decomposition Products: Thermal decomposition can lead to release of irritating and toxic gases and vapors. Carbon monoxide. Carbon dioxide (CO2).

Section 11: Toxicological Information

Information on likely routes of exposure Inhalation

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

Eye contact

Redness. May cause slight irritation.

Skin contact

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

Ingestion

May cause drowsiness or dizziness. Ingestion causes burns of the upper digestive and respiratory tracts. Symptoms include burning sensation, coughing, wheezing, shortness of breath, headache, nausea, and vomiting.

Section 12: Ecological Information

Ecotoxicity

2.19 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Glycerol 56-81-5	-	51 - 57: 96 h Oncorhynchus mykiss mL/L LC50 static	500: 24 h Daphnia magna mg/L EC50
Calcium Chloride 10043-52-4		10650: 96 h Lepomis macrochirus mg/L LC50 static	2400: 48 h Daphnia magna mg/L LC50

All other data unavailable

Section 13: Disposal Considerations

Waste treatment methods

Relevant Information

Keep out of drains, sewers, ditches and waterways.

Disposal considerations

Use a licensed professional waste disposal service to dispose of this product. Product may be dissolved in a combustible solvent or absorbed onto a combustible material and burned by a chemical incinerator.

Contaminated packaging

Empty containers must be tripled rinsed prior to disposal.

Section 14: Transport Information

This product is not dangerous and no special precautions are needed according to DOT, ADR/RID (cross border), IMDG and IATA/ICAO.

Section 15: Other Regulatory Information

International Inventories

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TSCA: Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

US Federal Regulations

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

U.S. EPA Label Information

EPA Pesticide Registration Number: Not applicable

Section 16: Other Information

References: Not available. Other Special Considerations: Not available.

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Recovery Beads

Section 1: Chemical Information Product Name: Recovery Beads Supplier: Phase Genomics, 1617 8th Ave N, Seattle, WA 98109, 1-833-742-7436

Section 2: Composition and Information on Ingredients

Chemical characterization: Mixtures Description: The product is a mixture of the hazardous substances listed below along with unlisted nonhazardous substances. Dangerous components: Void Additional information: For the wording of the listed risk phrases refer to section 15.

Section 2: Hazard Identification

Substance or Mixture: The product is not classified as hazardous according to the Globally Harmonized System (GHS). Synonyms/Common Names: N/A GHS label elements Void Hazard pictograms Void Signal word Void Hazard statements Void Classification system: NFPA ratings (scale 0 - 4) Health = 0 Fire = 0Reactivity = 0 HMIS-ratings (scale 0 - 4) Health = 0Fire = 0 Reactivity = 0 OSHA Hazard Overview (Criteria according to 29CFR1910.1200): Not applicable Target Organ(s): Not applicable or unknown Other hazards This mixture has not been tested to determine the overall health hazard; therefore in accordance with 29CFR1910.1200, the data reported above pertains to the hazardous ingredients of this mixture. Results of PBT and vPvB assessment PBT: Not applicable.

vPvB: Not applicable.

Section 4: First Aid Measures

Description of first aid measures General information: No special measures required. After inhalation: If the patient feels unwell or is concerned, obtain medical advice. After skin contact: Generally the product does not irritate the skin. After eye contact: Rinse opened eye for several minutes under running water. After swallowing: If the patient feels unwell or is concerned, obtain medical advice. Information for doctor: Most important symptoms and effects, both acute and delayed: Dizziness

Indication of any immediate medical attention and special treatment needed: No further relevant information available.

Section 5: Fire and Explosion Data

Conditions of Flammability: Not flammable or combustible. Suitable Extinguishing Media: Dry powder, CO2, water spray or regular foam. Special Protective Equipment for Firefighters: No special measures required. Hazardous Combustion Products: N/A

Section 6: Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: not required. Environmental precautions: Do not allow to enter sewers/ surface or ground water. Methods and material for containment and cleaning up: Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Reference to other sections See Section 7 for information on safe handling. See Section 13 for disposal information.

Section 7: Handling and Storage

Handling: Precautions for safe handling: No special measures required. Information about protection against explosions and fires: The product is not flammable. Conditions for safe storage, including any incompatibilities Storage: Requirements to be met by storerooms and receptacles: No special requirements. Page 53 of 66 I-833-PHAS-GEN

support@phasegenomics.com



Information about storage in one common storage facility: Not required. Further information about storage conditions: None. Specific end use(s): No further relevant information available.

Section 8: Exposure Controls and Personal Protection Control parameters

Components with limit values that require monitoring at the workplace: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.

Exposure controls

Personal protective equipment:

General protective and hygienic measures: The usual precautionary measures for handling chemicals should be followed.

Breathing equipment: Not required.

Protection of hands: Not required.

Material of gloves: The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and

varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance

of the glove material can not be calculated in advance and has therefore to be checked prior to the application. **Eye protection:** Not required.

Section 9: Physical and Chemical Properties

Appearance: Form: Liquid, with precipitates Color: Brown Odor: No data available Odor Threshold: No data available pH: No data available Melting Point/Freezing Point: No data available Initial Boiling Point/Boiling Range: 100 °C (212 °F) Flash Point: No data available Evaporation Rate: No data available Flammability (Solid, Gas): No data available Upper/Lower Limits on Flammability and Explosive Limits: Flammability Limit (Upper): No data available Flammability Limit (Lower): No data available Explosive Limit (Upper): No data available Explosive Limit (Lower): No data available Vapor Pressure: No data available Vapor Density: No data available Relative Density: No data available Solubility: Solubility in Water: Not miscible or difficult to mix. Solubility (Other): No data available Partition Coefficient (n-octanol/ water): No data available Auto-Ignition Temperature: No data available Decomposition Temperature: No data available Viscosity: Dynamic: Not determined. Kinematic: Not determined. Water: 90.6 % VOC content: 0.00 % Solids content: 34 1 % Other information: No further relevant information available. Section 10: Stability and Reactivity Data

Reactivity: No data available Chemical Stability: No data available Possibility of Hazardous Reactions: No dangerous reactions known. Conditions to Avoid: No data available Materials to Avoid: No data available Hazardous Decomposition Products: No data available

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:

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Oral LD50: No data available Inhalation LC50: No data available Dermal LD50: No data available

Other Information: No data available Skin Corrosion/Irritation: No irritant effect. Serious Eye Damage/Irritation: Irritating effect. Respiratory or Skin Sensitization: No data available Germ Cell Mutagenicity: No data available Carcinogenicity:

> IARC: None of the ingredients are listed. NTP: None of the ingredients are listed. OSHA: None of the ingredients are listed. Reproductive Toxicity: No data available

Additional Information: The product is not subject to classification according to internally approved calculation methods for preparations: When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

Section 12: Ecological Information

Toxicity

Aquatic toxicity: Not harmful to the aquatic environment Persistence and degradability: Not available Behavior in environmental systems: Bioaccumulative potential: Not known Mobility in soil: No further relevant information available. Ecotoxical effects: Remark: Not available Additional ecological information: General notes: Water hazard class 1 (Self-assessment): slightly hazardous for water Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system. Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. Other adverse effects No further relevant information 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. Contaminated Packaging:

Disposal must be made according to official regulations.

Section 14: Transport Information

DOT: Not regulated. IMDG: Not regulated. IATA: Not regulated.

Section 15: Other Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture Sara

Section 355 (extremely hazardous substances): None of the ingredients are listed. Section 313 (Specific toxic chemical listings): None of the ingredients are listed. TSCA (Toxic Substances Control Act):

7647-14-5 sodium chloride

1185-53-1 2-Amino-2-(hydroxymethyl)-1,3-propanediolhydrochloride

7732-18-5 water

Proposition 65

Chemicals known to cause cancer: None of the ingredients are listed. Chemicals known to cause reproductive toxicity for females: None of the ingredients are listed. Chemicals known to cause reproductive toxicity for males: None of the ingredients are listed.

Chemicals known to cause developmental toxicity: None of the ingredients are listed. Cancerogenity categories

Δ4

EPA (Environmental Protection Agency): None of the ingredients are listed.

TLV (Threshold Limit Value established by ACGIH)

26628-22-8 sodium azide

NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients are listed.

GHS label elements Void

Signal word Void

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Hazard statements Void

National regulations:

Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water. Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

Section 16: Other Information

References: Not available. Other Special Considerations: Not available.

Last Updated: 02/07/2020 4:00 PM

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Recovery Wash Concentrate

Section 1: Chemical Information

Product Name: Recovery Wash Concentrate

Supplier: Phase Genomics, 1617 8th Ave N, Seattle, WA 98109, 1-833-742-7436 Recommended use: reagent

Section 2: Composition and Information on Ingredients

Chemical characterization: Mixtures

Description:

The product is a mixture of the hazardous substances listed below along with unlisted nonhazardous substances. The exact concentration percentages of the hazardous substances may be withheld as a Promega Corp. trade secret.

Dangerous components: Void

Additional information: For the wording of the listed risk phrases refer to section 15.

Section 3: Hazard Identification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

Section 4: First Aid Measures

General advice

The product contains no substances which at their given concentration, are considered to be hazardous to health. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove from exposure, lie down. Do not breathe dust/fume/gas/mist/vapors/spray.

Eye contact

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact

Wash skin with soap and water.

Inhalation

If the patient feels unwell or is concerned, obtain medical advice.

Ingestion

If the patient feels unwell or is concerned, obtain medical advice.

Most important symptoms and effects, both acute and delayed

Dizziness

Indication of any immediate medical attention and special treatment needed. Note to physicians: Treat symptomatically.

Section 5: Fire and Explosion Data

Conditions of Flammability: Not flammable or combustible. Suitable Extinguishing Media: Dry powder, CO2, or water spray. Special Protective Equipment for Firefighters: No special advice Hazardous Combustion Products: None known Further Information: N/A Further information: N/A

Section 6: Accidental Release Measures

Personal precautions

No known health hazards

Personal protective equipment [PPE]

Use personal protection recommended in Section 8.

Environmental precautions

See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up Methods for containment Dilute with plenty of water.

Methods for cleaning up

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Reference to other sections

No dangerous substances are released. See Section 7 for information on safe handling.

See Section 13 for disposal information.

Section 7: Handling and Storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. Information about protection against explosions and fires: The product is not flammable. Conditions for safe storage, including any incompatibilities Storage:

Requirements to be met by storerooms and receptacles: No special requirements. Information about storage in one common storage facility: Not required. Further information about storage conditions: None.



Section 8: Exposure Controls and Personal Protection

Control parameters

Components with limit values that require monitoring at the workplace:

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Additional information: The lists that were valid during the creation were used as basis.

Exposure controls

Personal protective equipment:

General protective and hygienic measures: The usual precautionary measures for handling chemicals should be followed.

Breathing equipment: Not required.

Protection of hands: Not required.

Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

Eye protection: Not required.

Section 9: Physical and Chemical Properties

Physical State: Form: Liquid Color: Clear or colorless Odor: None pH-value at 20 °C (68 °F): 5 Melting point/Melting range: 0 °C (32 °F) Boiling point/Boiling range: 100 °C (212 °F) Flash point: Not applicable. Flammability (solid, gaseous): Not applicable. Ignition temperature: Decomposition temperature: Not determined. Auto igniting: Product is not selfigniting. Danger of explosion: Product does not present an explosion hazard Explosion limits: Lower: Not determined. Upper: Not determined. Vapor pressure: Not determined. Density: Not determined. Relative density Not determined. Vapor density Not determined. Evaporation rate Not determined. Solubility in / Miscibility with Water: Fully miscible. Partition coefficient (n-octanol/water): Not determined. Viscosity: Dynamic: Not determined. Kinematic: Not determined. Organic solvents: 0.1 % Water: 99.5 % VOC content: 0.11 % Solids content: 0.5 % Other information No further relevant information available.

Section 10: Stability and Reactivity Data

Reactivity No further relevant information available. Chemical stability Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications. Possibility of hazardous reactions No dangerous reactions known. Conditions to avoid No further relevant information available. Incompatible materials: No further relevant information available. Hazardous decomposition products: No dangerous decomposition products known.

Section 11: Toxicological Information

Low hazard for usual industrial or commercial handling by trained personnel LD/LC50 values that are relevant for classification: No data available Eye contact

Irritating effect.

Skin contact

No irritant effect.

Ingestion

No harmful effects expected in amounts likely to be ingested by accident. Skin corrosion/irritation Not Classified

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Serious eye damage/eye irritation	Not Classified	
Sensitization	Not Classified	
Germ cell mutagenicity	Not Classified	
Carcinogenicity: This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or N		

Section 12: Ecological Information

Toxicity Aquatic toxicity: Not harmful to the aquatic environment Persistence and degradability Not available Behavior in environmental systems: Bioaccumulative potential Not known Mobility in soil: No further relevant information available. Ecotoxical effects: Remark: Not available Additional ecological information: General notes: Generally not hazardous for water. Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. Other adverse effects No further relevant information available.

Section 13: Disposal Considerations

Waste treatment methods

Recommendation:

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. **Uncleaned packagings:** Recommendation: Disposal must be made according to official regulations.

Recommended cleansing agent: Water, if necessary with cleansing agents.

Section 14: Transport Information

This product is not dangerous and no special precautions are needed according to DOT, ADR/RID (cross border), IMDG and IATA/ICAO.

Section 15: Other Regulatory Information

Safety, health and environmental regulations/legislation specific for the substance or mixture Sara Section 355 (extremely hazardous substances): None of the ingredients are listed. Section 313 (Specific toxic chemical listings): None of the ingredients are listed. TSCA (Toxic Substances Control Act): All ingredients are listed. Proposition 65 Chemicals known to cause cancer: None of the ingredients are listed. Chemicals known to cause reproductive toxicity for females: None of the ingredients are listed. Chemicals known to cause reproductive toxicity for males: None of the ingredients are listed. Chemicals known to cause developmental toxicity: None of the ingredients are listed. Cancerogenity categories EPA (Environmental Protection Agency) None of the ingredients are listed. TLV (Threshold Limit Value established by ACGIH) None of the ingredients are listed. NIOSH-Ca (National Institute for Occupational Safety and Health) None of the ingredients are listed. GHS label elements Void Signal word Void Hazard statements Void National regulations: Water hazard class: Generally not hazardous for water. Chemical safety assessment: A Chemical Safety Assessment has not been carried out. Section 16: Other Information

References: Not available. Other Special Considerations: Not available. Last Updated: 02/07/2018 4:00 PM



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Stop Solution

Section 1: Chemical Information

Product Name: Stop Solution

Supplier: Phase Genomics, 1617 8th Ave N, Seattle, WA 98109, 1-833-742-7436 Recommended Use: reagent

Section 2: Composition and Information on Ingredients

Hazard Classification

Health Hazards: This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Hazard Symbol: N/A

Section 3: Hazard Identification

GHS Classification OSHA Regulatory Status

This chemical is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Signal Word:

Warning

Hazard statements

Causes respiratory tract, eye and skin irritation. Avoid breathing vapor or mist. Avoid contact with eyes, skin, and clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Physical state: Liquid

Potential Acute Health Effects:

INHALATION: irritating to respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. INGESTION: No known significant effects or critical hazards. SKIN: irritating to skin. EYES: irritating to eyes.

Potential Chronic Health Effects:

CARCINOGENICITY: No known significant effects or critical hazards. MUTAGENICITY: No known significant effects or critical hazards. TERATOGENICITY: No known significant effects or critical hazards. DEVELOPMENT EFFECTS: No known significant effects or critical hazards. FERTILITY EFFECTS: No known significant effects or critical hazards. MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE: None known.

Section 4: First Aid Measures

In Case of Skin Contact: Immediately flush with plenty of water for at least 15 minutes while removing contaminated clothes and shoes. Wash clothes before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

In Case of Eye Contact: Remove contact lenses, if present and easy to do. Flush eyes with plenty of water for at least 15 minutes, making sure to occasionally flush upper and lower eyelids. Get medical attention immediately.

If Swallowed: Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Section 5: Fire and Explosion Data

Conditions of Flammability: If heated, a pressure increase will occur and the container may burst.

- Suitable Extinguishing Media: Dry powder, CO2, water spray or regular foam.
- Special Protective Equipment for Firefighters: Wear self-contained breathing apparatus with a full face-piece operated in positive pressure mode.
- Hazardous Combustion Products: Further Information: N/A
- Further information: N/A

Section 6: Accidental Release Measures

Personal Precautions: Do not walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental Precautions: Do not allow undiluted product to enter sewer/surface or soil or ground water. Inform relevant authorities if product has caused environmental pollution.

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

Methods and Materials for Containment and Cleaning Up: Use inert absorbent material to soak up spill. Prevent further leakage or spillage if safe to do so.

See section 7 for information on safe handling. See section 8 for information on PPE.

See section 13 for disposal information.

Section 7: Handling and Storage

Precautions for Safe Handling: Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Provide appropriate exhaust ventilation. Keep tightly closed when not in use. Keep container tightly closed in a dry, well-ventilated place and out of direct sunlight.

Section 8: Exposure Controls and Personal Protection

Appropriate Engineering Controls: General industrial hygiene practice.

Recommendations for Personal Protective Measures:

Hand Protection: The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation



Material of gloves: The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

Eye Protection: Safety eyewear complying with an approved standard should be used.

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: N/A

Hygiene Measures: Avoid contact with eyes, skin and clothing. Wash hands thoroughly after using this product.

Special Requirements for Personal Protective Equipment, Protective Clothing, Respirators, etc: N/A

Components with Workplace Control Parameters: N/A

Section 9: Physical and Chemical Properties

Appearance:

Form: Liquid Color: Clear to light yellow Odor: No data available Odor Threshold: No data available pH: No data available Melting Point/Freezing Point: No data available Initial Boiling Point/Boiling Range: No data available Flash Point: No data available Evaporation Rate: No data available Flammability (Solid, Gas): No data available Vapor Pressure: No data available Vapor Density: No data available Relative Density: No data available

Section 10: Stability and Reactivity Data

Reactivity: No data available Chemical Stability: This product is stable. Possibility of Hazardous Reactions: Under normal conditions of storage and use, hazardous reactions will not occur. Materials to Avoid: No data available Hazardous Decomposition Products: Under normal conditions of storage and use, no hazardous decomposition products will be produced.

Section 11: Toxicological Information

Acute toxicity:

Chemical name	Oral LD50
Ethylenediaminetetraacetic acid	=30 mg/kg (mouse)

Carcinogenicity: No known significant effects or critical hazards. Mutagenicity: No known significant effects or critical hazards. Teratogenicity: No known significant effects or critical hazards.

Section 12: Ecological Information

Toxicity: No known significant effects or critical hazards. Persistence and Degradability: No data available Bioaccumulative Potential: No data available Mobility in Soil: No data available PBT and vPvB Assessment: No data available

Section 13: Disposal Considerations

Dispose unused material. Observe regulations.

Section 14: Transport Information

DOT: Not regulated. IMDG: Not regulated. IATA: Not regulated.

Section 15: Other Regulatory Information HCS classification Page 62 of 66



Irritating material

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section

313.

SARA 311/312 Hazards

No SARA Hazards

Massachusetts Right To Know Components: N/A Pennsylvania Right To Know Components: N/A New Jersey Right To Know Components: N/A California Prop. 65 Components

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

Section 16: Other Information

References: Not available. Other Special Considerations: Not available.

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Streptavidin Beads

Section 1: Chemical Information Product Name: Streptavidin Beads Supplier: Phase Genomics, 1617 8th Ave N, Seattle, WA 98109, 1-833-742-7436 Recommended use: reagent

Section 2: Composition and Information on Ingredients

Hazard Classification Health Hazards: No known OSHA hazards Not a dangerous substance according to GHS GHS Label Element Hazard Symbol: N/A

Hazard Statements: Not a hazardous substance or mixture.

Section 3: Hazard Identification

Substance or Mixture: Mixture of non-hazardous substances. Synonyms/Common Names: N/A Chemical Name: Sodium azide Cas No.: 26628-22-8 Concentration: 0.05%

Section 4: First Aid Measures

General Advice: Wear protective gloves/protective clothing/eye protection/face protection. If Inhaled: If not breathing, give artificial respiration. In Case of Skin Contact: Wash with soap and water. In Case of Eye Contact: Remove contact lenses, if present and easy to do. Continue rinsing. If Swallowed: N/A Most Important Symptoms and Effects, Acute and Delayed: N/A Recommendations for Immediate Medical Attention and Special Treatment: Treat symptomatically. Symptoms may be delayed.

Section 5: Fire and Explosion Data

Conditions of Flammability: Not flammable or combustible. Suitable Extinguishing Media: Dry powder, CO2, water spray or regular foam. Special Protective Equipment for Firefighters: Wear self-contained breathing apparatus, if necessary. Hazardous Combustion Products: Further Information: N/A Further information: Prevent fire fighting water from entering surface water or groundwater.

Section 6: Accidental Release Measures

Personal Precautions: Avoid inhalation of vapors or mist. See Section 8: Exposure Controls/ Personal Protection for more information. Environmental Precautions: Do not allow undiluted product to enter sewer/surface or ground water. Emergency Procedures: Evacuate personnel to safe areas and follow emergency response protocols. Methods and Materials 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 eyes, skin and clothing. Avoid inhalation of vapors or mist.

Conditions for Safe Storage: Store at 2-8°C. Keep container tightly closed in a dry, well-ventilated place. Incompatible Products: N/A

Section 8: Exposure Controls and Personal Protection

Appropriate Engineering Controls: Adequate ventilation and access to eye washing stations are required. Recommendations for Personal Protective Measures:

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: Use a face shield and/or safety goggles when handling this product. Use eyewear that has been approved by NIOSH.

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 (in countries where exposure limits have not been established), 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 Personal Protective Equipment, Protective Clothing, Respirators, etc: N/A

Components with Workplace Control Parameters: N/A

Section 9: Physical and Chemical Properties

Appearance: Form: Liquid, with precipitates Color: Brown Odor: No data available Odor Threshold: No data available pH: No data available

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Melting Point/Freezing Point: No data available Initial Boiling Point/Boiling Range: No data available Flash Point: No data available Evaporation Rate: No data available Flammability (Solid, Gas): No data available Upper/Lower Limits on Flammability and Explosive Limits: Flammability Limit (Upper): No data available Flammability Limit (Lower): No data available Explosive Limit (Upper): No data available Explosive Limit (Lower): No data available Vapor Pressure: No data available Vapor Density: No data available Relative Density: No data available Solubility: Solubility in Water: No data available Solubility (Other): No data available Partition Coefficient (n-octanol/ water): No data available Auto-Ignition Temperature: No data available Decomposition Temperature: No data available

Section 10: Stability and Reactivity Data

Viscosity: No data available

Reactivity: No data available Chemical Stability: No data available Possibility of Hazardous Reactions: Conditions to Avoid: No data available Materials to Avoid: No data available Hazardous Decomposition Products: No data available

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 LC50: No data available Dermal LD50: No data available Other Information: 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 component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. ACGIH: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by ACGIH. NTP: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by NTP. OSHA: No component of this product that is present at 0.1% is identified as probable, possible or confirmed human carcinogen by OSHA.

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 known significant effects or critical hazards. Persistence and Degradability: No data available Bioaccumulative Potential: No data available Mobility in Soil: No data available PBT and vPvB Assessment: 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.

Sodium azide preservative may form explosive compounds in metal drain lines. See NIOSH Bulletin: Explosive Azide Hazard (8/16/76). To avoid possible build-up of azide compounds, flush wastepipes with water after the disposal of undiluted reagent. Sodium azide disposal must be in accordance with appropriate local regulations. Refer to Section 7: Handling and Storage and Section 8: Exposure Control/ Personal Protection for additional handling information and protection of employees. Contaminated Packaging:

Disposal must be made according to official regulations.

Section 14: Transport Information

DOT: Not regulated.

IMDG: Not regulated. IATA: Not regulated. Section 15: Other Regulatory Information SARA 302/304: SARA 302 TPQ: Name: Sodium azide %·005 EHS Yes (lbs) 500 (gallons) -SARA 304 RQ: (lbs) 1,000 (gallons) -SARA 304 RQ: 2,000,000 lbs / 908,000 kg 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: N/A **US State Regulations:** California Prop. 65: No ingredient regulated by CA Prop 65 present. Massachusetts RTK: Sodium azide CAS No. 26628-22-8 New Jersey & Community RTK: Water CAS No. 7732-18-5 Sodium azide CAS. No 26628-22-8 Pennsylvania RTK: Water CAS No. 7732-18-5 Sodium azide CAS No. 26628-22-8

Rhode Island RTK: No ingredient regulated by RI Right to Know Act present.

Section 16: Other Information

References: Not available. Other Special Considerations: Not available.

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