

G-Biosciences/Genotech: St. Louis, MO, USA; www.GBiosciences.com email: technical@GBiosciences.com

Product: Total Arrest RNA Isolation Kit **Catalog #:** 786-130 (Micro) / 786-131 (Large) [LU 06.17.09/JK-IA]

<u>Components</u>	<u>Micro</u>	<u>Large</u>
Arrest™ Extraction Buffer	2 x 30 ml	3 x 30 ml
Precipitation Solution	10ml	10ml
pinkRESIN™	3 x 1ml	5 x 1ml
Wash I	50ml	50ml
Wash II	2 x 100 ml	3 x 100
RNA-Elution Buffer	3 x1.5ml	4 x1.5ml
Spin Columns	50 micro	10 large
DNase Buffer	10ml	10ml

Material Safety Data Sheet

Section 1: Chemical Identification

Name: Arrest™ Extraction Buffer

Catalog #: a component of product Cat # 786-130 & 786-131 indicated above

Section 2: Composition/Information on Ingredients

Details not available, proprietary buffer composition

Section 3: Hazards Identification

Label precautionary statements. Irritating to eyes, respiratory system, and, skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 4: First-Aid Measures

After eye contact: Immediately flush eyes with copious amounts of water for at least 15 minutes.

After skin contact: Immediately wash skin with soap and copious amounts of water.

After Inhalation: Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

After swallowing: Wash out mouth with water provided person is conscious. Call a physician. Wash contaminated clothing before reuse.

Section 5: Fire Fighting Measures

Extinguishing Agents: Water spray, Carbon dioxide, dry chemical powder or appropriate foam.

Special fire fighting procedures: None Needed

Unusual fire and explosions hazards: None known

Section 6: Accidental Release Measures

Human Safety Precautions: Wear chemical safety goggles, rubber boots and heavy rubber gloves.

Cleaning/Collecting Measures: Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7: Handling and Storage

Refer to section 8.

Section 8: Exposure Controls/Personal Protection

Personal protective equipment: Chemical safety goggles, compatible chemical-respirator, NIOSH/MSHA-approved respirator, and safety shower and eye bath.

General Protective and Hygiene Measures:

Mechanical exhaust required.

Avoid contact with eyes, skin and clothing. Wash hands thoroughly after handling. Irritant. Keep tightly closed. Store in a cool dry place.

Section 9: Physical and Chemical Properties

Form: Liquid

Color: Colorless

Odor: None

Section 10: Stability and Reactivity

Thermal Decomposition/Conditions to be avoided: No decomposition if used according to specifications.

Dangerous Reactions: No dangerous reactions known.

Dangerous Products of Decomposition: No known dangerous decomposition products.

Section 11: Toxicological Information

Primary Irritant Effects: Harmful if inhaled or ingested.

On the skin: Material is irritating to skin and mucous membranes.

On the eye: Causes eye irritation.

Sensitization: No sensitizing effects known.

Section 12: Ecological Information

Data not yet available.

Section 13: Disposal Considerations

Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Hand over to hazardous waste disposers.

Observe all federal, state and local environmental regulations.

Section 14: Transport Information

Contact *G-Biosciences* for transportation information.

Section 15: Regulatory information

Irritating to eyes, respiratory system and skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 16: Other Information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. G-Biosciences shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

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Material Safety Data Sheet

Section 1: Chemical Identification

Name: Precipitation Solution

Catalog #: a component of product Cat # 786-130 & 786-131 indicated above

Section 2: Composition/Information on Ingredients

Details not available, proprietary reagent composition

Section 3: Hazards Identification

Label precautionary statements. Irritating to eyes, respiratory system, and, skin.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 4: First-Aid Measures

After eye contact: Immediately flush eyes with copious amounts of water for at least 15 minutes.

After skin contact: Immediately wash skin with soap and copious amounts of water.

After Inhalation: Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

After swallowing: Wash out mouth with water provided person is conscious. Call a physician. Wash contaminated clothing before reuse.

Section 5: Fire Fighting Measures

Extinguishing Agents: Water spray, Carbon dioxide, dry chemical powder or appropriate foam.

Special fire fighting procedures: None Needed

Unusual fire and explosions hazards: None known

Section 6: Accidental Release Measures

Human Safety Precautions: Wear chemical safety goggles, rubber boots and heavy rubber gloves.

Cleaning/Collecting Measures: Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7: Handling and Storage

Refer to section 8.

Section 8: Exposure Controls/Personal Protection

Personal protective equipment:

Chemical safety goggles, compatible chemical-respirator, NIOSH/MSHA-approved respirator, and safety shower and eye bath.

General Protective and Hygiene Measures:

Mechanical exhaust required.

Avoid contact with eyes, skin and clothing. Wash hands thoroughly after handling. Irritant. Keep tightly closed. Store in a cool dry place.

Section 9: Physical and Chemical Properties

Form: Liquid

Color: Colorless

Odor: None

Section 10: Stability and Reactivity

Thermal Decomposition/Conditions to be avoided: No decomposition if used according to specifications.

Dangerous Reactions: No dangerous reactions known.

Dangerous Products of Decomposition: No known dangerous decomposition products.

Section 11: Toxicological Information

Primary Irritant Effects: Harmful if inhaled or ingested.

On the skin: Material is irritating to skin and mucous membranes.

On the eye: Causes eye irritation.

Sensitization: No sensitizing effects known.

Section 12: Ecological Information

Data not yet available.

Section 13: Disposal Considerations

Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Hand over to hazardous waste disposers.

Observe all federal, state and local environmental regulations.

Section 14: Transport Information

Contact *G-Biosciences* for transportation information.

Section 15: Regulatory information

Irritating to eyes, respiratory system and skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 16: Other Information

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Material Safety Data Sheet

Section 1: Chemical Identification

Name: *pinkRESIN*[™]

Catalog #: a component of product Cat # 786-130 & 786-131 indicated above

Section 2: Composition/Information on Ingredients

Details not available, inert abrasive material with DNA binding properties

Section 3: Hazards Identification

Label precautionary statements. Irritating to eyes, respiratory system, and, skin.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 4: First-Aid Measures

After eye contact: Immediately flush eyes with copious amounts of water for at least 15 minutes.

After skin contact: Immediately wash skin with soap and copious amounts of water.

After Inhalation: Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

After swallowing: Wash out mouth with water provided person is conscious. Call a physician. Wash contaminated clothing before reuse.

Section 5: Fire Fighting Measures

Extinguishing Agents: Water spray, Carbon dioxide, dry chemical powder or appropriate foam.

Special fire fighting procedures: None Needed

Unusual fire and explosions hazards: None known

Section 6: Accidental Release Measures

Human Safety Precautions: Wear chemical safety goggles, rubber boots and heavy rubber gloves.

Cleaning/Collecting Measures: Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7: Handling and Storage

Refer to section 8.

Section 8: Exposure Controls/Personal Protection

Personal protective equipment:

Chemical safety goggles, compatible chemical-respirator, NIOSH/MSHA-approved respirator, and safety shower and eye bath.

General Protective and Hygiene Measures:

Mechanical exhaust required.

Avoid contact with eyes, skin and clothing. Wash hands thoroughly after handling. Irritant. Keep tightly closed. Store in a cool dry place.

Section 9: Physical and Chemical Properties

Form: Solid

Color: Pink/White

Odor: None

Section 10: Stability and Reactivity

Thermal Decomposition/Conditions to be avoided: No decomposition if used according to specifications.

Dangerous Reactions: No dangerous reactions known.

Dangerous Products of Decomposition: No known dangerous decomposition products.

Section 11: Toxicological Information

Primary Irritant Effects: Harmful if inhaled or ingested.

On the skin: Material is irritating to skin and mucous membranes.

On the eye: Causes eye irritation.

Sensitization: No sensitizing effects known.

Section 12: Ecological Information

Data not yet available.

Section 13: Disposal Considerations

Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Hand over to hazardous waste disposers.

Observe all federal, state and local environmental regulations.

Section 14: Transport Information

Contact *G-Biosciences* for transportation information.

Section 15: Regulatory information

Irritating to eyes, respiratory system and skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 16: Other Information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. G-Biosciences shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

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Material Safety Data Sheet

Section 1: Chemical Identification

Name: Wash I

Catalog #: a component of product Cat # 786-130 & 786-131 indicated above

Section 2: Composition/Information on Ingredients

Details not available, proprietary buffer composition

Section 3: Hazards Identification

Label precautionary statements. Irritating to eyes, respiratory system, and, skin.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 4: First-Aid Measures

After eye contact: Immediately flush eyes with copious amounts of water for at least 15 minutes.

After skin contact: Immediately wash skin with soap and copious amounts of water.

After Inhalation: Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

After swallowing: Wash out mouth with water provided person is conscious. Call a physician. Wash contaminated clothing before reuse.

Section 5: Fire Fighting Measures

Extinguishing Agents: Water spray, Carbon dioxide, dry chemical powder or appropriate foam.

Special fire fighting procedures: None Needed

Unusual fire and explosions hazards: None known

Section 6: Accidental Release Measures

Human Safety Precautions: Wear chemical safety goggles, rubber boots and heavy rubber gloves.

Cleaning/Collecting Measures: Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7: Handling and Storage

Refer to section 8.

Section 8: Exposure Controls/Personal Protection

Personal protective equipment:

Chemical safety goggles, compatible chemical-respirator, NIOSH/MSHA-approved respirator, and safety shower and eye bath.

General Protective and Hygiene Measures:

Mechanical exhaust required.

Avoid contact with eyes, skin and clothing. Wash hands thoroughly after handling. Irritant. Keep tightly closed. Store in a cool dry place.

Section 9: Physical and Chemical Properties

Form: Liquid

Color: Colorless

Odor: None

Section 10: Stability and Reactivity

Thermal Decomposition/Conditions to be avoided: No decomposition if used according to specifications.

Dangerous Reactions: No dangerous reactions known.

Dangerous Products of Decomposition: No known dangerous decomposition products.

Section 11: Toxicological Information

Primary Irritant Effects: Harmful if inhaled or ingested.

On the skin: Material is irritating to skin and mucous membranes.

On the eye: Causes eye irritation.

Sensitization: No sensitizing effects known.

Section 12: Ecological Information

Data not yet available.

Section 13: Disposal Considerations

Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Hand over to hazardous waste disposers.

Observe all federal, state and local environmental regulations.

Section 14: Transport Information

Contact *G-Biosciences* for transportation information.

Section 15: Regulatory information

Irritating to eyes, respiratory system and skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 16: Other Information

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Material Safety Data Sheet

Section 1: Chemical Identification

Name: Wash II

Catalog #: a component of product Cat # 786-130 & 786-131 indicated above

Section 2: Composition/Information on Ingredients

Details not available, proprietary buffer composition

Section 3: Hazards Identification

Label precautionary statements. Irritating to eyes, respiratory system, and, skin.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 4: First-Aid Measures

After eye contact: Immediately flush eyes with copious amounts of water for at least 15 minutes.

After skin contact: Immediately wash skin with soap and copious amounts of water.

After Inhalation: Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

After swallowing: Wash out mouth with water provided person is conscious. Call a physician. Wash contaminated clothing before reuse.

Section 5: Fire Fighting Measures

Extinguishing Agents: Water spray, Carbon dioxide, dry chemical powder or appropriate foam.

Special fire fighting procedures: None Needed

Unusual fire and explosions hazards: None known

Section 6: Accidental Release Measures

Human Safety Precautions: Wear chemical safety goggles, rubber boots and heavy rubber gloves.

Cleaning/Collecting Measures: Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7: Handling and Storage

Refer to section 8.

Section 8: Exposure Controls/Personal Protection

Personal protective equipment:

Chemical safety goggles, compatible chemical-respirator, NIOSH/MSHA-approved respirator, and safety shower and eye bath.

General Protective and Hygiene Measures:

Mechanical exhaust required.

Avoid contact with eyes, skin and clothing. Wash hands thoroughly after handling. Irritant. Keep tightly closed. Store in a cool dry place.

Section 9: Physical and Chemical Properties

Form: Liquid

Color: Colorless

Odor: None

Section 10: Stability and Reactivity

Thermal Decomposition/Conditions to be avoided: No decomposition if used according to specifications.

Dangerous Reactions: No dangerous reactions known.

Dangerous Products of Decomposition: No known dangerous decomposition products.

Section 11: Toxicological Information

Primary Irritant Effects: Harmful if inhaled or ingested.

On the skin: Material is irritating to skin and mucous membranes.

On the eye: Causes eye irritation.

Sensitization: No sensitizing effects known.

Section 12: Ecological Information

Data not yet available.

Section 13: Disposal Considerations

Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Hand over to hazardous waste disposers.

Observe all federal, state and local environmental regulations.

Section 14: Transport Information

Contact *G-Biosciences* for transportation information.

Section 15: Regulatory information

Irritating to eyes, respiratory system and skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 16: Other Information

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Material Safety Data Sheet

Section 1: Chemical Identification

Name: RNA Elution Buffer

Catalog #: a component of product Cat # 786-130 & 786-131 indicated above

Section 2: Composition/Information on Ingredients

Details not available, proprietary elution buffer composition

Section 3: Hazards Identification

Label precautionary statements. Irritating to eyes, respiratory system, and, skin.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 4: First-Aid Measures

After eye contact: Immediately flush eyes with copious amounts of water for at least 15 minutes.

After skin contact: Immediately wash skin with soap and copious amounts of water.

After Inhalation: Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

After swallowing: Wash out mouth with water provided person is conscious. Call a physician. Wash contaminated clothing before reuse.

Section 5: Fire Fighting Measures

Extinguishing Agents: Water spray, Carbon dioxide, dry chemical powder or appropriate foam.

Special fire fighting procedures: None Needed

Unusual fire and explosions hazards: None known

Section 6: Accidental Release Measures

Human Safety Precautions: Wear chemical safety goggles, rubber boots and heavy rubber gloves.

Cleaning/Collecting Measures: Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7: Handling and Storage

Refer to section 8.

Section 8: Exposure Controls/Personal Protection

Personal protective equipment:

Chemical safety goggles, compatible chemical-respirator, NIOSH/MSHA-approved respirator, and safety shower and eye bath.

General Protective and Hygiene Measures:

Mechanical exhaust required.

Avoid contact with eyes, skin and clothing. Wash hands thoroughly after handling. Irritant. Keep tightly closed. Store in a cool dry place.

Section 9: Physical and Chemical Properties

Form: Liquid

Color: Colorless

Odor: None

Section 10: Stability and Reactivity

Thermal Decomposition/Conditions to be avoided: No decomposition if used according to specifications.

Dangerous Reactions: No dangerous reactions known.

Dangerous Products of Decomposition: No known dangerous decomposition products.

Section 11: Toxicological Information

Primary Irritant Effects: Harmful if inhaled or ingested.

On the skin: Material is irritating to skin and mucous membranes.

On the eye: Causes eye irritation.

Sensitization: No sensitizing effects known.

Section 12: Ecological Information

Data not yet available.

Section 13: Disposal Considerations

Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Hand over to hazardous waste disposers.

Observe all federal, state and local environmental regulations.

Section 14: Transport Information

Contact *G-Biosciences* for transportation information.

Section 15: Regulatory information

Irritating to eyes, respiratory system and skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 16: Other Information

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Material Safety Data Sheet

Identification

Name: Spin Columns

Catalog #: a component of product Cat # 786-130 & 786-131 indicated above

Composition/Information on Ingredients

Made up of plastic

Section 3: Hazards Identification Believed to be safe, handle carefully

Other Information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. *G-Biosciences* shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.

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Web: www.GBiosciences.com, email: technical@GBiosciences.com

Material Safety Data Sheet

Section 1: Chemical Identification

Name: DNase Buffer

Catalog #: a component of product Cat # 786-130 & 786-131 indicated above

Section 2: Composition/Information on Ingredients

Details not available, proprietary buffer composition

Section 3: Hazards Identification

Label precautionary statements. Irritating to eyes, respiratory system, and, skin.

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 4: First-Aid Measures

After eye contact: Immediately flush eyes with copious amounts of water for at least 15 minutes.

After skin contact: Immediately wash skin with soap and copious amounts of water.

After Inhalation: Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

After swallowing: Wash out mouth with water provided person is conscious. Call a physician. Wash contaminated clothing before reuse.

Section 5: Fire Fighting Measures

Extinguishing Agents: Water spray, Carbon dioxide, dry chemical powder or appropriate foam.

Special fire fighting procedures: None Needed

Unusual fire and explosions hazards: None known

Section 6: Accidental Release Measures

Human Safety Precautions: Wear chemical safety goggles, rubber boots and heavy rubber gloves.

Cleaning/Collecting Measures: Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7: Handling and Storage

Refer to section 8.

Section 8: Exposure Controls/Personal Protection

Personal protective equipment:

Chemical safety goggles, compatible chemical-respirator, NIOSH/MSHA-approved respirator, and safety shower and eye bath.

General Protective and Hygiene Measures:

Mechanical exhaust required.

Avoid contact with eyes, skin and clothing. Wash hands thoroughly after handling. Irritant. Keep tightly closed. Store in a cool dry place.

Section 9: Physical and Chemical Properties

Form: Liquid

Color: Colorless

Odor: None

Section 10: Stability and Reactivity

Thermal Decomposition/Conditions to be avoided: No decomposition if used according to specifications.

Dangerous Reactions: No dangerous reactions known.

Dangerous Products of Decomposition: No known dangerous decomposition products.

Section 11: Toxicological Information

Primary Irritant Effects: Harmful if inhaled or ingested.

On the skin: Material is irritating to skin and mucous membranes.

On the eye: Causes eye irritation.

Sensitization: No sensitizing effects known.

Section 12: Ecological Information

Data not yet available.

Section 13: Disposal Considerations

Recommendation:

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Hand over to hazardous waste disposers.

Observe all federal, state and local environmental regulations.

Section 14: Transport Information

Contact *G-Biosciences* for transportation information.

Section 15: Regulatory information

Irritating to eyes, respiratory system and skin. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing.

Section 16: Other Information

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