

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Product name	DS1 Buffer
Kit / Catalog number	DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum) / GM2016
Version / Revision date	Version 2.0 / 07/18/2026

SECTION 1. IDENTIFICATION

Product identifier	DS1 Buffer
Other means of identification	Component of DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum), Cat. No. GM2016
Recommended use	Laboratory reagent used in isolation and purification of cell-free total nucleic acids from plasma or serum.
Restrictions on use	For research use only. Not for use in diagnostic procedures.
Manufacturer / responsible party	GM Biosciences, Inc.
U.S. address	5350 Partners Ct., Suite C, Frederick, MD 21703, USA
Telephone	240-595-9177
Email	support@gmbiosciences.com
Emergency telephone	240-595-9177 (normal business hours: 10:00 AM-5:00 PM Eastern Time)

SECTION 2. HAZARD(S) IDENTIFICATION

OSHA/GHS classification	Acute toxicity (oral), Category 4; Acute toxicity (inhalation), Category 4; Skin corrosion, Category 1C; Serious eye damage, Category 1; Hazardous to the aquatic environment (chronic), Category 3.
Classification basis	Conservative classification based on the supplied ≥ 30 to $< 60\%$ guanidinium thiocyanate concentration range and analogous aqueous-mixture SDS data.
Hazards not otherwise classified	Contact with acids or bleach (sodium hypochlorite) may liberate toxic gases. Do not mix this product or its waste with acids, bleach, or strong oxidizing agents.

**Signal word: DANGER****Hazard statements:****H302 + H332 Harmful if swallowed or if inhaled.****H314 Causes severe skin burns and eye damage.****H412 Harmful to aquatic life with long lasting effects.****Precautionary statements**

- P260 Do not breathe mist or spray.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink, or smoke when using this product.
- P273 Avoid release to the environment.
- P280 Wear protective gloves, protective clothing, and eye/face protection.
- P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.
- P363 Wash contaminated clothing before reuse.

- P405 Store locked up.
- P501 Dispose of contents/container in accordance with applicable regulations.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration (% w/w)	Notes
Guanidinium thiocyanate	593-84-0	>= 30 - < 60	Exact concentration withheld as a trade secret. Synonym: guanidine thiocyanate.

Note: Concentration is expressed as weight percent unless otherwise stated.

SECTION 4. FIRST-AID MEASURES

General advice	Move the exposed person out of the danger area. Show this SDS to medical personnel. Obtain immediate medical attention after significant exposure.
Inhalation	Move to fresh air and keep comfortable for breathing. If breathing is difficult, trained personnel may provide oxygen. Call a POISON CENTER or physician if the person feels unwell or symptoms occur.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower and wash thoroughly with soap and plenty of water for at least 15 minutes. Obtain immediate medical attention. Wash contaminated clothing before reuse.
Eye contact	Rinse cautiously and immediately with water for at least 15 minutes, including under the eyelids. Remove contact lenses if present and easy to do. Continue rinsing and immediately call a POISON CENTER or physician. Serious and potentially irreversible eye damage may occur.
Ingestion	Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or physician. Never give anything by mouth to an unconscious person.
Most important symptoms/effects	Harmful if swallowed or inhaled. Causes severe skin burns and serious eye damage. Exposure may cause respiratory irritation and gastrointestinal injury.
Immediate medical attention	Treat symptomatically. Chemical burns may require urgent specialist evaluation. No specific antidote is known.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Water spray, alcohol-resistant foam, dry chemical, or carbon dioxide. Use measures appropriate to the surrounding fire.
Unsuitable extinguishing media	No specific limitation known. Avoid methods that spread contaminated runoff.
Specific hazards	The product is not expected to be flammable. Heating or fire may generate toxic or irritating fumes, including nitrogen oxides, sulfur oxides, carbon oxides, and thiocyanate decomposition products.
Firefighter protection	Wear self-contained breathing apparatus and full protective equipment. Do not breathe combustion fumes and prevent contaminated firefighting runoff from entering drains or waterways.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Restrict access. Ensure adequate ventilation. Avoid breathing mist or spray and avoid all contact with skin and eyes. Wear chemical-resistant gloves, protective clothing, and eye/face protection.
Environmental precautions	Prevent entry into drains, surface water, and soil. Stop the leak if it can be done safely.
Containment and cleanup	Absorb with inert material such as sand, vermiculite, or universal binder. Collect in a closed, compatible, labeled container for hazardous-waste disposal. Clean the affected area with water after material is removed.

Special caution	Do not use bleach, acids, or strong oxidizing cleaners on the spill or on waste containing this product; toxic gases may be released.
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SECTION 7. HANDLING AND STORAGE

Precautions for safe handling	Use with adequate ventilation. Do not breathe mist or spray. Avoid ingestion and all contact with skin and eyes. Wear protective gloves, protective clothing, and eye/face protection. Do not eat, drink, or smoke while handling. Wash thoroughly after handling.
Conditions for safe storage	Store at room temperature in the original, tightly closed, properly labeled container. Keep in a dry, well-ventilated place. Protect from excessive heat and direct sunlight. Store away from acids, bleach (sodium hypochlorite), strong oxidizing agents, and incompatible chemicals. Store locked up or in a controlled-access laboratory area.
Specific end use	Laboratory reagent for isolation and purification of cell-free total nucleic acids from plasma or serum. For research use only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits	No OSHA PEL or ACGIH TLV has been established for guanidinium thiocyanate.
Engineering controls	Provide effective general ventilation and local exhaust where mist or spray may be generated. Ensure eyewash stations and safety showers are immediately accessible.
Eye/face protection	Tightly fitting chemical splash goggles and a face shield.
Hand protection	Chemical-resistant protective gloves. Select glove material and breakthrough time based on the glove supplier recommendation and the specific working conditions.
Skin/body protection	Laboratory coat and chemical-resistant protective clothing appropriate for corrosive liquids. Use closed footwear.
Respiratory protection	Normally not required when adequate ventilation prevents mist or aerosol exposure. If exposure cannot be controlled, use a NIOSH-approved respirator selected under a written respiratory-protection program.
Hygiene measures	Keep away from food and drink. Wash hands and exposed skin thoroughly after handling. Remove contaminated clothing immediately and wash before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Color	Colorless to light yellow
Odor	Characteristic
Odor threshold	No data available.
Melting point/freezing point	No data available.
Initial boiling point/range	No data available.
Flammability	Not expected to be flammable under normal conditions of use.
Lower/upper explosion or flammability limits	No data available.
Flash point	No data available for the aqueous formulation.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
pH	No data available.
Kinematic viscosity	No data available.
Solubility	Soluble or miscible in water.

Partition coefficient (n-octanol/water)	No data available.
Vapor pressure	No data available.
Relative vapor density	No data available.
Relative density	No data available.
Evaporation rate	No data available.
Particle characteristics	Not applicable to the liquid mixture.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	Stable under recommended conditions, but incompatible reactions may occur with acids, bleach, and strong oxidizing agents.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Thiocyanates may generate poisonous gases in contact with strong acids. Contact with bleach (sodium hypochlorite) or strong oxidizing agents may also liberate toxic gases.
Conditions to avoid	Excessive heat, aerosol formation, and contact with incompatible chemicals.
Incompatible materials	Strong acids, bleach (sodium hypochlorite), strong oxidizing agents, and strong bases.
Hazardous decomposition products	Nitrogen oxides, sulfur oxides, carbon oxides, and other toxic or irritating fumes may form during combustion, strong heating, or incompatible reactions.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely routes of exposure	Inhalation of mist or spray, eye contact, skin contact, and ingestion.
Acute toxicity	Mixture conservatively classified as harmful if swallowed or inhaled. Guanidinium thiocyanate: reported oral LD50 (rat, female) 593 mg/kg; reported LD50 by another route (mouse) 300 mg/kg in reference SDS data.
Skin corrosion/irritation	Causes severe skin burns. Corrosive and destructive to tissue.
Serious eye damage/irritation	Causes serious eye damage and may cause irreversible injury.
Respiratory/skin sensitization	Not classified based on available data.
Germ cell mutagenicity	Not classified based on available data.
Carcinogenicity	No component at $\geq 0.1\%$ is known to be listed as a carcinogen by IARC, NTP, or OSHA based on available reference data.
Reproductive toxicity	Not classified based on available data.
STOT - single/repeated exposure	Not classified based on available data.
Aspiration hazard	Not classified based on available data.
Symptoms	Chemical burns of skin and eyes; respiratory irritation after mist exposure; gastrointestinal injury if swallowed.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity	Mixture conservatively classified as harmful to aquatic life with long lasting effects. Guanidinium thiocyanate reference data: fish LC50 89.1 mg/L (96 h); Daphnia EC50 42.4 mg/L (48 h).
Persistence and degradability	No mixture-specific data available.
Bioaccumulative potential	No mixture-specific data available. Significant bioaccumulation is not expected based on available information.
Mobility in soil	No data available.

Other adverse effects	Avoid uncontrolled release to the environment. Guanidinium thiocyanate reference data include a fish NOEC of 25 mg/L.
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SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods	Dispose of contents and container as hazardous chemical waste through a licensed waste-management provider in accordance with federal, state, and local requirements.
Special precautions	Do not mix liquid waste containing this product with acids, bleach, or strong oxidizing agents. Do not discharge concentrated product to drains or the environment.
Contaminated packaging	Dispose of as unused product unless adequately decontaminated by a validated compatible procedure. Do not reuse empty containers.

SECTION 14. TRANSPORT INFORMATION

DOT (49 CFR)	UN 1760, Corrosive liquid, n.o.s. (guanidinium thiocyanate), Class 8, Packing Group III.
IATA-DGR	UN 1760, Corrosive liquid, n.o.s. (guanidinium thiocyanate), Class 8, Packing Group III.
IMDG Code	UN 1760, CORROSIVE LIQUID, N.O.S. (guanidinium thiocyanate), Class 8, Packing Group III; marine pollutant: no.
Special precautions	Transport classification is based on analogous aqueous guanidinium-thiocyanate mixtures. Package-size, limited-quantity, and mode-specific provisions may apply. Verify the actual formulation, package, and current transport regulations before commercial shipment.

SECTION 15. REGULATORY INFORMATION

OSHA Hazard Communication	Hazardous chemical under 29 CFR 1910.1200 based on the classification in Section 2.
CERCLA	No component with a reportable quantity is known to be present based on available reference data.
SARA 302/304	No extremely hazardous substance with an applicable threshold planning or reportable quantity is known to be present.
SARA 311/312	Acute toxicity; skin corrosion or irritation; serious eye damage or eye irritation.
SARA 313	No listed toxic chemical is known to exceed the reporting threshold based on available reference data.
TSCA	Ingredients are expected to be listed on, or exempt from, the TSCA Chemical Substance Inventory. Verify before final release.
California Proposition 65	No listed chemical is known to be present based on the information supplied. Verify against the current list before final release.

SECTION 16. OTHER INFORMATION

Revision date	07/18/2026
Version	2.0
Prepared by	GM Biosciences, Inc.
Reference basis	Analogous manufacturer SDSs for aqueous guanidinium thiocyanate mixtures, supplier safety information for guanidinium thiocyanate, and OSHA Hazard Communication mixture-classification criteria.
Classification note	The classification and statements are based on information supplied by the product developer, the maximum disclosed concentration range, and analogous reference SDSs. No independent physical, toxicological, ecological, or transport testing of the finished mixture was provided.

Abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists; DOT: U.S. Department of Transportation; GHS: Globally Harmonized System; IARC: International Agency for Research on Cancer; IATA: International Air Transport Association; IMDG: International Maritime Dangerous Goods; NTP: National Toxicology Program; OSHA: Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; SARA: Superfund Amendments and Reauthorization Act; SDS: Safety Data Sheet; STOT: Specific Target Organ Toxicity; TSCA: Toxic Substances Control Act; TLV: Threshold Limit Value.
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Disclaimer: The information provided in this Safety Data Sheet is believed to be accurate and represents the best information currently available to GM Biosciences, Inc. as of the revision date. The information is intended solely as guidance for the safe handling, use, processing, storage, transportation, disposal, and release of the designated product and is not to be considered a warranty or quality specification. The information relates only to the specific material identified and may not be valid when the material is used in combination with other materials or in any process unless specifically stated. GM Biosciences, Inc. assumes no responsibility for damage, injury, or loss resulting from improper handling, use contrary to recommended procedures, or failure to comply with applicable laws and regulations. Users are responsible for determining the suitability of this information for their particular purposes and for obtaining qualified regulatory review before commercial distribution.

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Product name	Proteinase K
Kit / Catalog number	DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum) / GM2016
Version / Revision date	Version 2.0 / 07/18/2026

SECTION 1. IDENTIFICATION

Product identifier	Proteinase K
Other means of identification	Component of DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum), Cat. No. GM2016
Recommended use	Laboratory reagent used in isolation and purification of cell-free total nucleic acids from plasma or serum.
Restrictions on use	For research use only. Not for use in diagnostic procedures.
Manufacturer / responsible party	GM Biosciences, Inc.
U.S. address	5350 Partners Ct., Suite C, Frederick, MD 21703, USA
Telephone	240-595-9177
Email	support@gmbiosciences.com
Emergency telephone	240-595-9177 (normal business hours: 10:00 AM-5:00 PM Eastern Time)

SECTION 2. HAZARD(S) IDENTIFICATION

OSHA/GHS classification	Respiratory sensitization, Category 1.
Classification basis	Based on the current QIAGEN Proteinase K reference SDS and a Thermo Fisher Proteinase K preparation SDS supplied by the product developer.
Hazards not otherwise classified	Airborne enzyme dust may cause sensitization. Avoid dust formation and inhalation.

**Signal word: DANGER****Hazard statement:**

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Precautionary statements

- P261 Avoid breathing dust.
- P284 In case of inadequate ventilation, wear respiratory protection.
- P280 Wear protective gloves, protective clothing, and eye protection.
- P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER or physician.
- P501 Dispose of contents/container in accordance with applicable regulations.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration (% w/w)	Notes
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Chemical name	CAS No.	Concentration (% w/w)	Notes
Proteinase K	39450-01-6	≤100	Enzyme powder. Exact concentration and nonhazardous stabilizers, if any, are not disclosed.

Note: Concentration is expressed as weight percent unless otherwise stated.

SECTION 4. FIRST-AID MEASURES

General advice	Avoid further exposure. Show this SDS to medical personnel. Seek medical attention if respiratory symptoms occur.
Inhalation	Move the person to fresh air and keep comfortable for breathing. If allergy or asthma symptoms or breathing difficulty occur, call a POISON CENTER or physician.
Skin contact	Wash with soap and plenty of water. Remove contaminated clothing. Obtain medical advice if irritation develops.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical advice if irritation persists.
Ingestion	Rinse mouth. Do not induce vomiting. Seek medical advice if unwell.
Most important symptoms/effects	Protein enzymes may cause sensitization by inhalation. Symptoms may include coughing, wheezing, chest tightness, shortness of breath, or asthma-like reactions.
Immediate medical attention	Treat symptomatically. Persons with respiratory sensitization may require prompt evaluation.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Water spray, foam, dry chemical, or carbon dioxide. Use measures appropriate to the surrounding fire.
Unsuitable extinguishing media	No specific limitation known.
Specific hazards	Dust may be dispersed during handling. Thermal decomposition may generate carbon oxides, nitrogen oxides, and other irritating fumes.
Firefighter protection	Wear self-contained breathing apparatus and protective clothing when necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Avoid dust formation and inhalation. Ensure adequate ventilation. Wear gloves, eye protection, protective clothing, and respiratory protection when dust exposure cannot be avoided.
Environmental precautions	Prevent uncontrolled release to drains, surface water, or soil.
Containment and cleanup	Collect carefully without creating airborne dust. Use a HEPA-filtered vacuum or damp cleanup method where appropriate. Place in a closed, labeled container for disposal.
Emergency procedures	Keep unnecessary personnel away from the affected area and ventilate the area.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling	Avoid generating or breathing dust. Do not eat, drink, or smoke while handling. Wear appropriate PPE and wash hands after use.
Conditions for safe storage	Store at -20 °C. Keep tightly closed, dry, and protected from moisture. Maintain the product at the specified temperature.
Specific end use	Laboratory enzyme used in cell-free nucleic acid isolation workflows. For research use only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits	No OSHA PEL or ACGIH TLV has been established for Proteinase K.
Engineering controls	Use local exhaust or a biological/chemical safety enclosure when weighing or otherwise generating dust. Ensure eyewash access.
Eye/face protection	Safety glasses with side shields or chemical safety goggles.
Hand protection	Compatible disposable laboratory gloves.
Skin/body protection	Laboratory coat or other suitable protective clothing.
Respiratory protection	Avoid dust generation. Where adequate control cannot be ensured, use a properly fitted, approved particulate respirator under an applicable respiratory-protection program.
Hygiene measures	Wash hands after handling. Do not allow contaminated clothing to leave the workplace before cleaning.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid powder
Color	White to off-white
Odor	Odorless
Odor threshold	No data available.
Melting point/freezing point	No data available.
Initial boiling point/range	Not applicable.
Flammability	No data available.
Lower/upper explosion or flammability limits	No data available.
Flash point	Not applicable.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
pH	No data available.
Kinematic viscosity	Not applicable.
Solubility	Soluble in water.
Partition coefficient (n-octanol/water)	No data available.
Vapor pressure	Not applicable.
Relative vapor density	Not applicable.
Relative density	No data available.
Evaporation rate	Not applicable.
Particle characteristics	Powder particle-size data not available.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	No dangerous reaction is expected under recommended conditions.
Chemical stability	Stable when stored as directed.
Possibility of hazardous reactions	No dangerous reactions known.
Conditions to avoid	Moisture, excessive heat, and dust generation.

Incompatible materials	Strong oxidizing agents.
Hazardous decomposition products	Carbon oxides, nitrogen oxides, and other irritating fumes may form during combustion or strong heating.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely routes of exposure	Inhalation of dust, eye contact, skin contact, and ingestion.
Acute toxicity	Not classified based on available data.
Skin corrosion/irritation	Not classified based on available data.
Serious eye damage/irritation	Not classified based on available data.
Respiratory sensitization	Category 1. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitization	Not classified based on available data.
Germ cell mutagenicity	Not classified based on available data.
Carcinogenicity	No component at $\geq 0.1\%$ is known to be listed as a carcinogen by IARC, NTP, or OSHA based on the supplied reference SDSs.
Reproductive toxicity	Not classified based on available data.
STOT - single/repeated exposure	Not classified based on available data.
Aspiration hazard	Not applicable to a solid enzyme powder.
Symptoms	Coughing, wheezing, chest tightness, shortness of breath, or asthma-like symptoms after inhalation exposure.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity	No product-specific data available.
Persistence and degradability	No data available.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No data available. Avoid uncontrolled release to the environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods	Dispose of product and contaminated packaging through an approved waste-management provider in accordance with applicable regulations.
Special precautions	Avoid creating airborne dust during waste handling.
Contaminated packaging	Dispose of as unused product unless adequately decontaminated. Do not reuse empty containers.

SECTION 14. TRANSPORT INFORMATION

DOT (49 CFR)	Not regulated as a dangerous good based on available reference SDSs.
IATA-DGR	Not regulated as a dangerous good based on available reference SDSs.
IMDG Code	Not regulated as a dangerous good based on available reference SDSs.
Special precautions	Keep packaging tightly closed, dry, and protected from damage. Final transport classification must be verified before commercial shipment.

SECTION 15. REGULATORY INFORMATION

OSHA Hazard Communication	Hazardous chemical under 29 CFR 1910.1200 due to respiratory sensitization.
CERCLA	No component with a reportable quantity is known to be present based on available reference data.
SARA 302/304	No extremely hazardous substance with an applicable threshold planning or reportable quantity is known to be present.
SARA 311/312	Respiratory sensitization hazard.
SARA 313	No listed toxic chemical is known to exceed the reporting threshold based on available reference data.
TSCA	Proteinase K is expected to be listed on, or exempt from, the TSCA Chemical Substance Inventory. Verify before final release.
California Proposition 65	No listed chemical is known to be present based on the information supplied. Verify against the current list before final release.

SECTION 16. OTHER INFORMATION

Revision date	07/18/2026
Version	2.0
Prepared by	GM Biosciences, Inc.
Reference basis	QIAGEN Proteinase K SDS (revision 09/26/2025) and Thermo Fisher MMX CF TNA PRO K SDS (revision 05/22/2018).
Classification note	The classification and statements are based on information supplied by the product developer, maximum disclosed concentrations, and analogous reference SDSs. No independent physical, toxicological, or transport testing of the finished mixture was provided.
Abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists; DOT: U.S. Department of Transportation; GHS: Globally Harmonized System; IARC: International Agency for Research on Cancer; IATA: International Air Transport Association; IMDG: International Maritime Dangerous Goods; NTP: National Toxicology Program; OSHA: Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; SARA: Superfund Amendments and Reauthorization Act; SDS: Safety Data Sheet; STOT: Specific Target Organ Toxicity; TSCA: Toxic Substances Control Act; TLV: Threshold Limit Value.

Disclaimer: The information provided in this Safety Data Sheet is believed to be accurate and represents the best information currently available to GM Biosciences, Inc. as of the revision date. The information is intended solely as guidance for the safe handling, use, processing, storage, transportation, disposal, and release of the designated product and is not to be considered a warranty or quality specification. The information relates only to the specific material identified and may not be valid when the material is used in combination with other materials or in any process unless specifically stated. GM Biosciences, Inc. assumes no responsibility for damage, injury, or loss resulting from improper handling, use contrary to recommended procedures, or failure to comply with applicable laws and regulations. Users are responsible for determining the suitability of this information for their particular purposes and for obtaining qualified regulatory review before commercial distribution.

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Product name	PK Reconstitution Buffer
Kit / Catalog number	DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum) / GM2016
Version / Revision date	Version 2.0 / 07/18/2026

SECTION 1. IDENTIFICATION

Product identifier	PK Reconstitution Buffer
Other means of identification	Component of DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum), Cat. No. GM2016
Recommended use	Laboratory reagent used in isolation and purification of cell-free total nucleic acids from plasma or serum.
Restrictions on use	For research use only. Not for use in diagnostic procedures.
Manufacturer / responsible party	GM Biosciences, Inc.
U.S. address	5350 Partners Ct., Suite C, Frederick, MD 21703, USA
Telephone	240-595-9177
Email	support@gmbiosciences.com
Emergency telephone	240-595-9177 (normal business hours: 10:00 AM-5:00 PM Eastern Time)

SECTION 2. HAZARD(S) IDENTIFICATION

No GHS
pictogram**Not classified as a hazardous substance or mixture under the OSHA Hazard Communication Standard based on the information supplied.**

No signal word, hazard statement, or mandatory precautionary statement is required.

Other hazards	Contains glycerol at up to 50%. This major ingredient is voluntarily disclosed in Section 3 but does not cause the mixture to be classified as hazardous.
Hazards not otherwise classified	No applicable information available.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration (% w/w)	Notes
Glycerol	56-81-5	≤50	Not classified as hazardous under OSHA HCS; voluntarily disclosed because it is a major component.

Note: Concentration is expressed as weight percent unless otherwise stated.

SECTION 4. FIRST-AID MEASURES

General advice	No special measures are expected to be required. Show this SDS to medical personnel if medical advice is sought.
Inhalation	Move to fresh air if discomfort occurs. Seek medical advice if symptoms persist.

Skin contact	Rinse with water. Remove contaminated clothing. Seek medical advice if irritation occurs.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical advice if irritation persists.
Ingestion	Rinse mouth. Do not induce vomiting. Seek medical advice if the person feels unwell.
Most important symptoms/effects	No significant acute or delayed effects are known under normal conditions of use.
Immediate medical attention	Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Water spray, foam, dry chemical, or carbon dioxide. Use measures appropriate to the surrounding fire.
Unsuitable extinguishing media	No specific limitation known.
Specific hazards	The product is not expected to be flammable. Heating may generate irritating fumes from container or minor organic constituents.
Firefighter protection	Use standard protective equipment and self-contained breathing apparatus when required by the surrounding fire.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Use normal laboratory PPE. Avoid splashes and unnecessary contact.
Environmental precautions	No special environmental precautions are expected to be necessary; avoid uncontrolled release.
Containment and cleanup	Absorb with inert material and place in a suitable container. Clean the area with water.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling	Follow standard laboratory hygiene. Avoid contact with eyes and prolonged skin contact. Avoid generating aerosols or mist.
Conditions for safe storage	Store at room temperature. Keep container tightly closed and properly labeled. Protect from contamination and excessive heat.
Specific end use	Reconstitution buffer for Proteinase K. For research use only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits	For glycerol mist, the supplied reference SDS lists OSHA PEL values of 15 mg/m ³ (total dust/mist) and 5 mg/m ³ (respirable fraction). These limits are primarily relevant when mist or aerosol is generated.
Engineering controls	General laboratory ventilation is normally adequate. Avoid aerosol generation.
Eye/face protection	Safety glasses are recommended.
Hand protection	Compatible laboratory gloves are recommended.
Skin/body protection	Laboratory coat or other suitable protective clothing.
Respiratory protection	Normally not required. Use suitable respiratory protection if significant aerosol or mist is generated.
Hygiene measures	Wash hands after handling and before eating or drinking.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
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Color	Colorless
Odor	Odorless
Odor threshold	No data available.
Melting point/freezing point	No data available.
Initial boiling point/range	No data available.
Flammability	Not expected to be flammable under normal conditions of use.
Lower/upper explosion or flammability limits	No data available.
Flash point	Not applicable or no data available for the aqueous formulation.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
pH	No data available.
Kinematic viscosity	No data available.
Solubility	Miscible in water.
Partition coefficient (n-octanol/water)	No data available.
Vapor pressure	No data available.
Relative vapor density	No data available.
Relative density	No data available.
Evaporation rate	No data available.
Particle characteristics	Not applicable to the liquid mixture.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	No specific reactivity hazard is known.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No dangerous reaction is expected under normal use.
Conditions to avoid	Extreme temperatures and contamination.
Incompatible materials	Strong oxidizing agents; strong acids and bases may be incompatible with some formulation components.
Hazardous decomposition products	No hazardous decomposition products are expected under normal storage and use.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely routes of exposure	Eye contact, skin contact, ingestion, or inhalation of generated mist.
Acute toxicity	The mixture is not classified for acute toxicity. Reference data for glycerol indicate low acute oral toxicity (reported oral LD50 in rats approximately 12,000-12,600 mg/kg).
Skin corrosion/irritation	Not classified. Prolonged contact may cause mild irritation in susceptible persons.
Serious eye damage/irritation	Not classified. Direct contact may cause transient irritation.
Respiratory/skin sensitization	Not classified based on available data.
Germ cell mutagenicity	Not classified based on available data.
Carcinogenicity	Glycerol is not identified as a carcinogen by IARC, NTP, or OSHA in the supplied reference SDSs.

Reproductive toxicity	Not classified based on available data.
STOT - single/repeated exposure	Not classified based on available data.
Aspiration hazard	Not classified based on available data.
Symptoms	Possible mild eye or skin irritation; gastrointestinal discomfort may occur after substantial ingestion.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity	No product-specific data available.
Persistence and degradability	No data available.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No data available. Avoid uncontrolled release to the environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods	Dispose of contents and container in accordance with federal, state, and local requirements. Small laboratory quantities may be handled according to institutional procedures.
Contaminated packaging	Dispose of as unused product unless adequately cleaned. Do not reuse empty containers for other purposes.

SECTION 14. TRANSPORT INFORMATION

DOT (49 CFR)	Not regulated as a dangerous good.
IATA-DGR	Not regulated as a dangerous good.
IMDG Code	Not regulated as a dangerous good.
Special precautions	Keep containers tightly closed and protected from damage. Final transport classification must be verified before commercial shipment.

SECTION 15. REGULATORY INFORMATION

OSHA Hazard Communication	Not classified as hazardous under 29 CFR 1910.1200 based on the supplied information and analogous 50% glycerol buffer SDS.
CERCLA	No component with a reportable quantity is known to be present.
SARA 302/304	No extremely hazardous substance with an applicable threshold planning or reportable quantity is known to be present.
SARA 311/312	No reportable hazard category is expected based on the classification.
SARA 313	No listed toxic chemical is known to exceed the reporting threshold.
TSCA	Glycerol is listed on the TSCA Chemical Substance Inventory according to the supplied reference SDS.
California Proposition 65	No listed chemical is known to be present based on the information supplied. Verify against the current list before final release.

SECTION 16. OTHER INFORMATION

Revision date	07/18/2026
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Version	2.0
Prepared by	GM Biosciences, Inc.
Reference basis	Zymo Research Proteinase K Storage Buffer SDS (reviewed 08/25/2025) and Thermo Fisher Proteinase K preparation SDS.
Classification note	The classification and statements are based on information supplied by the product developer, maximum disclosed concentrations, and analogous reference SDSs. No independent physical, toxicological, or transport testing of the finished mixture was provided.
Abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists; DOT: U.S. Department of Transportation; GHS: Globally Harmonized System; IARC: International Agency for Research on Cancer; IATA: International Air Transport Association; IMDG: International Maritime Dangerous Goods; NTP: National Toxicology Program; OSHA: Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; SARA: Superfund Amendments and Reauthorization Act; SDS: Safety Data Sheet; STOT: Specific Target Organ Toxicity; TSCA: Toxic Substances Control Act; TLV: Threshold Limit Value.

Disclaimer: The information provided in this Safety Data Sheet is believed to be accurate and represents the best information currently available to GM Biosciences, Inc. as of the revision date. The information is intended solely as guidance for the safe handling, use, processing, storage, transportation, disposal, and release of the designated product and is not to be considered a warranty or quality specification. The information relates only to the specific material identified and may not be valid when the material is used in combination with other materials or in any process unless specifically stated. GM Biosciences, Inc. assumes no responsibility for damage, injury, or loss resulting from improper handling, use contrary to recommended procedures, or failure to comply with applicable laws and regulations. Users are responsible for determining the suitability of this information for their particular purposes and for obtaining qualified regulatory review before commercial distribution.

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Product name	DS2 Buffer
Kit / Catalog number	DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum) / GM2016
Version / Revision date	Version 2.0 / 07/18/2026

SECTION 1. IDENTIFICATION

Product identifier	DS2 Buffer
Other means of identification	Component of DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum), Cat. No. GM2016
Recommended use	Laboratory reagent used in isolation and purification of cell-free total nucleic acids from plasma or serum.
Restrictions on use	For research use only. Not for use in diagnostic procedures.
Manufacturer / responsible party	GM Biosciences, Inc.
U.S. address	5350 Partners Ct., Suite C, Frederick, MD 21703, USA
Telephone	240-595-9177
Email	support@gmbiosciences.com
Emergency telephone	240-595-9177 (normal business hours: 10:00 AM-5:00 PM Eastern Time)

SECTION 2. HAZARD(S) IDENTIFICATION

OSHA/GHS classification	Skin irritation, Category 2; Serious eye damage, Category 1.
Classification basis	Conservative classification based on the supplied ≥ 10 to $< 30\%$ sodium dodecyl sulfate concentration range, analogous manufacturer SDSs for 10-20% and 20% aqueous sodium dodecyl sulfate solutions, and OSHA mixture-classification criteria.
Hazards not otherwise classified	Aerosols or mists may irritate the respiratory tract. Avoid generating and breathing mist or spray.



Signal word: DANGER

Hazard statements:

H315 Causes skin irritation.

H318 Causes serious eye damage.

Precautionary statements:

P264 Wash hands thoroughly after handling.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P302 + P352 IF ON SKIN: Wash with plenty of water.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor.

P332 + P313 If skin irritation occurs: Get medical advice or attention.

P362 + P364 Take off contaminated clothing and wash it before reuse.

P501 Dispose of contents and container in accordance with applicable regulations.

Other hazards	Aerosols or mists may irritate the respiratory tract. Standard laboratory precautions should be observed.
Hazards not otherwise classified	None known.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration (% w/w)	Notes
Sodium dodecyl sulfate	151-21-3	>= 10 - < 30	Also known as sodium lauryl sulfate (SLS). Exact concentration withheld as a trade secret.

Note: Concentration is expressed as weight percent unless otherwise stated.

SECTION 4. FIRST-AID MEASURES

General advice	Move the exposed person away from the source of exposure. Show this SDS to medical personnel. Seek medical attention if symptoms occur.
Inhalation	Move to fresh air and keep comfortable for breathing. Obtain medical advice if coughing, irritation, or other respiratory symptoms persist.
Skin contact	Remove contaminated clothing. Wash with soap and plenty of water for at least 15 minutes. Obtain medical advice if irritation develops or persists.
Eye contact	Rinse cautiously and immediately with water for at least 15 minutes, including under the eyelids. Remove contact lenses if present and easy to do. Continue rinsing and immediately call a POISON CENTER or physician. Serious eye damage may occur.
Ingestion	Rinse mouth. Do not induce vomiting. Call a POISON CENTER or physician if the person feels unwell. Never give anything by mouth to an unconscious person.
Most important symptoms/effects	Causes skin irritation and serious eye damage. Mist or aerosol may irritate the respiratory tract.
Immediate medical attention	Treat symptomatically. No specific antidote is known.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Water spray, alcohol-resistant foam, dry chemical, or carbon dioxide. Use measures appropriate to the surrounding fire.
Unsuitable extinguishing media	No specific limitation known.
Specific hazards	The aqueous product is not expected to be flammable. Heating or fire may generate irritating or toxic fumes, including carbon oxides, sulfur oxides, and sodium oxides.
Firefighter protection	Wear self-contained breathing apparatus and full protective equipment when necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Ensure adequate ventilation. Avoid breathing mist or spray and avoid contact with skin and eyes. Wear protective gloves, protective clothing, and eye/face protection.
Environmental precautions	Prevent uncontrolled release to drains, surface water, or soil.
Containment and cleanup	Absorb with inert material such as sand, vermiculite, or universal binder. Collect in a closed, labeled container for disposal. Wash the affected area with water after material is removed.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling	Use with adequate ventilation. Avoid generating or breathing mist or spray. Avoid contact with skin and eyes. Wear protective gloves and eye/face protection. Do not eat, drink, or smoke while handling. Wash thoroughly after handling.
Conditions for safe storage	Store at room temperature in the original, tightly closed, properly labeled container. Protect from excessive heat and direct sunlight. Product may precipitate at low temperature.
Specific end use	Laboratory buffer used during plasma/serum sample preparation for cell-free total nucleic acid isolation. For research use only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits	No OSHA permissible exposure limit has been established for sodium dodecyl sulfate.
Engineering controls	Provide adequate general ventilation. Use local exhaust ventilation when aerosols or mist may be generated. Ensure eyewash and safety-shower access.
Eye/face protection	Tightly fitting chemical splash goggles. Add a face shield when splash risk is significant.
Hand protection	Compatible chemical-resistant laboratory gloves. Select glove material and breakthrough time based on the supplier recommendation and working conditions.
Skin/body protection	Laboratory coat or other suitable protective clothing.
Respiratory protection	Normally not required with adequate ventilation. Use a NIOSH-approved respirator if ventilation is inadequate or aerosol exposure may occur.
Hygiene measures	Wash hands thoroughly after handling. Remove and wash contaminated clothing before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Color	Colorless to pale yellow
Odor	No data available.
Odor threshold	No data available.
Melting point/freezing point	No data available. Product may precipitate at low temperature.

Initial boiling point/range	No data available.
Flammability	Not expected to be flammable under normal conditions of use.
Lower/upper explosion or flammability limits	No data available.
Flash point	Not applicable or no data available for the aqueous formulation.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
pH	No data available.
Kinematic viscosity	No data available.
Solubility	Soluble or miscible in water.
Partition coefficient (n-octanol/water)	No data available.
Vapor pressure	No data available.
Relative vapor density	No data available.
Relative density	No data available.
Evaporation rate	No data available.
Particle characteristics	Not applicable to the liquid mixture.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	No dangerous reaction is expected when handled and stored as directed.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No hazardous polymerization or dangerous reaction is expected under normal laboratory use.
Conditions to avoid	Excessive heat, aerosol formation, and contamination.
Incompatible materials	Strong oxidizing agents and strong acids.
Hazardous decomposition products	Carbon oxides, sulfur oxides, sodium oxides, and other irritating or toxic fumes may form during combustion or strong heating.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely routes of exposure	Eye contact, skin contact, ingestion, and inhalation of mist or aerosol.
Acute toxicity	The mixture is not classified for acute oral, dermal, or inhalation toxicity based on the available information and analogous 10-20% aqueous sodium dodecyl sulfate solution data.
Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/irritation	Causes serious eye damage and may cause irreversible injury.

Respiratory/skin sensitization	Not classified based on available data.
Germ cell mutagenicity	No data available for the mixture; not classified based on available ingredient information.
Carcinogenicity	No component at $\geq 0.1\%$ is known to be listed as a carcinogen by IARC, NTP, or OSHA based on the information supplied.
Reproductive toxicity	No data available for the mixture; not classified based on available ingredient information.
STOT - single/repeated exposure	Not classified based on available data. Mist or aerosol may cause respiratory irritation.
Aspiration hazard	Not classified.
Symptoms	Skin irritation; serious eye injury; coughing or respiratory discomfort following inhalation of mist or aerosol.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity	No mixture-specific data available. The mixture is not classified for aquatic toxicity based on analogous 10-20% and 20% aqueous sodium dodecyl sulfate solution SDS data used for this .
Persistence and degradability	No mixture-specific data available.
Bioaccumulative potential	No mixture-specific data available.
Mobility in soil	No data available.
Other adverse effects	No data available. Avoid uncontrolled release to the environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods	Dispose of contents and container through a licensed waste-management provider in accordance with federal, state, and local requirements. Do not discharge concentrated product to drains.
Contaminated packaging	Dispose of as unused product unless adequately decontaminated. Do not reuse empty containers.

SECTION 14. TRANSPORT INFORMATION

DOT (49 CFR)	Not regulated as a dangerous good based on available data and analogous aqueous sodium dodecyl sulfate solution SDSs.
IATA-DGR	Not regulated as a dangerous good based on available data and analogous aqueous sodium dodecyl sulfate solution SDSs.
IMDG Code	Not regulated as a dangerous good based on available data and analogous aqueous sodium dodecyl sulfate solution SDSs.
Special precautions	Keep containers tightly closed, upright, and protected from damage. Final transport classification must be verified before commercial shipment.

SECTION 15. REGULATORY INFORMATION

OSHA Hazard Communication	Hazardous chemical under 29 CFR 1910.1200 based on the classification in Section 2.
CERCLA	No component with a reportable quantity is known to be present based on the information reviewed.
SARA 302/304	No listed extremely hazardous substance is known to be present.
SARA 311/312	Skin corrosion or irritation; serious eye damage or eye irritation.
SARA 313	No listed toxic chemical is known to exceed the reporting threshold based on the information reviewed.
TSCA	Ingredients are expected to be listed on, or exempt from, the TSCA Chemical Substance Inventory. Verify before final release.
California Proposition 65	No listed chemical is known to be present based on the information supplied. Verify against the current list before final release.

SECTION 16. OTHER INFORMATION

Revision date	07/18/2026
Version	2.0
Prepared by	GM Biosciences, Inc.
Reference basis	Manufacturer SDSs for 10-20% and 20% aqueous sodium dodecyl sulfate solutions and OSHA 29 CFR 1910.1200 Appendix A.
Classification note	Based on the developer-supplied ≥ 10 to $< 30\%$ sodium dodecyl sulfate range and analogous mixture data. No independent testing of the finished mixture was provided.
Abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists; DOT: U.S. Department of Transportation; GHS: Globally Harmonized System; IARC: International Agency for Research on Cancer; IATA: International Air Transport Association; IMDG: International Maritime Dangerous Goods; NTP: National Toxicology Program; OSHA: Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; SARA: Superfund Amendments and Reauthorization Act; SDS: Safety Data Sheet; STOT: Specific Target Organ Toxicity; TSCA: Toxic Substances Control Act; TLV: Threshold Limit Value.

Disclaimer: The information provided in this Safety Data Sheet is believed to be accurate and represents the best information currently available to GM Biosciences, Inc. as of the revision date. The information is intended solely as guidance for the safe handling, use, processing, storage, transportation, disposal, and release of the designated product and is not to be considered a warranty or quality specification. The information relates only to the specific material identified and may not be valid when the material is used in combination with other materials or in any process unless specifically stated. GM Biosciences, Inc. assumes no responsibility for damage, injury, or loss resulting from improper handling, use contrary to recommended procedures, or failure to comply with applicable laws and regulations. Users are responsible for determining the suitability of this information for their particular purposes and for obtaining qualified regulatory review before commercial distribution.

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Product name	BD3 Buffer
Kit / Catalog number	DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum) / GM2016
Version / Revision date	Version 2.0 / 07/18/2026

SECTION 1. IDENTIFICATION

Product identifier	BD3 Buffer
Other means of identification	Component of DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum), Cat. No. GM2016
Recommended use	Laboratory reagent used in isolation and purification of cell-free total nucleic acids from plasma or serum.
Restrictions on use	For research use only. Not for use in diagnostic procedures.
Manufacturer / responsible party	GM Biosciences, Inc.
U.S. address	5350 Partners Ct., Suite C, Frederick, MD 21703, USA
Telephone	240-595-9177
Email	support@gmbiosciences.com
Emergency telephone	240-595-9177 (normal business hours: 10:00 AM-5:00 PM Eastern Time)

SECTION 2. HAZARD(S) IDENTIFICATION

OSHA/GHS classification	Acute toxicity (oral), Category 4; Acute toxicity (inhalation), Category 4; Skin corrosion, Category 1C; Serious eye damage, Category 1; Hazardous to the aquatic environment (chronic), Category 3.
Classification basis	Conservative classification based on the supplied ≥ 30 to $< 60\%$ guanidinium thiocyanate concentration range and analogous aqueous-mixture SDS data.
Hazards not otherwise classified	Contact with acids or bleach (sodium hypochlorite) may liberate toxic gases. Do not mix this product or its waste with acids, bleach, or strong oxidizing agents.

**Signal word: DANGER****Hazard statements:****H302 + H332 Harmful if swallowed or if inhaled.****H314 Causes severe skin burns and eye damage.****H412 Harmful to aquatic life with long lasting effects.****Precautionary statements**

- P260 Do not breathe mist or spray.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink, or smoke when using this product.
- P273 Avoid release to the environment.
- P280 Wear protective gloves, protective clothing, and eye/face protection.
- P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.
- P363 Wash contaminated clothing before reuse.

- P405 Store locked up.
- P501 Dispose of contents/container in accordance with applicable regulations.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration (% w/w)	Notes
Guanidinium thiocyanate	593-84-0	>= 30 - < 60	Exact concentration withheld as a trade secret. Synonym: guanidine thiocyanate.

Note: Concentration is expressed as weight percent unless otherwise stated.

SECTION 4. FIRST-AID MEASURES

General advice	Move the exposed person out of the danger area. Show this SDS to medical personnel. Obtain immediate medical attention after significant exposure.
Inhalation	Move to fresh air and keep comfortable for breathing. If breathing is difficult, trained personnel may provide oxygen. Call a POISON CENTER or physician if the person feels unwell or symptoms occur.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower and wash thoroughly with soap and plenty of water for at least 15 minutes. Obtain immediate medical attention. Wash contaminated clothing before reuse.
Eye contact	Rinse cautiously and immediately with water for at least 15 minutes, including under the eyelids. Remove contact lenses if present and easy to do. Continue rinsing and immediately call a POISON CENTER or physician. Serious and potentially irreversible eye damage may occur.
Ingestion	Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or physician. Never give anything by mouth to an unconscious person.
Most important symptoms/effects	Harmful if swallowed or inhaled. Causes severe skin burns and serious eye damage. Exposure may cause respiratory irritation and gastrointestinal injury.
Immediate medical attention	Treat symptomatically. Chemical burns may require urgent specialist evaluation. No specific antidote is known.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Water spray, alcohol-resistant foam, dry chemical, or carbon dioxide. Use measures appropriate to the surrounding fire.
Unsuitable extinguishing media	No specific limitation known. Avoid methods that spread contaminated runoff.
Specific hazards	The product is not expected to be flammable. Heating or fire may generate toxic or irritating fumes, including nitrogen oxides, sulfur oxides, carbon oxides, and thiocyanate decomposition products.
Firefighter protection	Wear self-contained breathing apparatus and full protective equipment. Do not breathe combustion fumes and prevent contaminated firefighting runoff from entering drains or waterways.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Restrict access. Ensure adequate ventilation. Avoid breathing mist or spray and avoid all contact with skin and eyes. Wear chemical-resistant gloves, protective clothing, and eye/face protection.
Environmental precautions	Prevent entry into drains, surface water, and soil. Stop the leak if it can be done safely.
Containment and cleanup	Absorb with inert material such as sand, vermiculite, or universal binder. Collect in a closed, compatible, labeled container for hazardous-waste disposal. Clean the affected area with water after material is removed.

Special caution	Do not use bleach, acids, or strong oxidizing cleaners on the spill or on waste containing this product; toxic gases may be released.
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SECTION 7. HANDLING AND STORAGE

Precautions for safe handling	Use with adequate ventilation. Do not breathe mist or spray. Avoid ingestion and all contact with skin and eyes. Wear protective gloves, protective clothing, and eye/face protection. Do not eat, drink, or smoke while handling. Wash thoroughly after handling.
Conditions for safe storage	Store at room temperature in the original, tightly closed, properly labeled container. Keep in a dry, well-ventilated place. Protect from excessive heat and direct sunlight. Store away from acids, bleach (sodium hypochlorite), strong oxidizing agents, and incompatible chemicals. Store locked up or in a controlled-access laboratory area.
Specific end use	Laboratory reagent for isolation and purification of cell-free total nucleic acids from plasma or serum. For research use only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits	No OSHA PEL or ACGIH TLV has been established for guanidinium thiocyanate.
Engineering controls	Provide effective general ventilation and local exhaust where mist or spray may be generated. Ensure eyewash stations and safety showers are immediately accessible.
Eye/face protection	Tightly fitting chemical splash goggles and a face shield.
Hand protection	Chemical-resistant protective gloves. Select glove material and breakthrough time based on the glove supplier recommendation and the specific working conditions.
Skin/body protection	Laboratory coat and chemical-resistant protective clothing appropriate for corrosive liquids. Use closed footwear.
Respiratory protection	Normally not required when adequate ventilation prevents mist or aerosol exposure. If exposure cannot be controlled, use a NIOSH-approved respirator selected under a written respiratory-protection program.
Hygiene measures	Keep away from food and drink. Wash hands and exposed skin thoroughly after handling. Remove contaminated clothing immediately and wash before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Color	Colorless to light yellow
Odor	Characteristic
Odor threshold	No data available.
Melting point/freezing point	No data available.
Initial boiling point/range	No data available.
Flammability	Not expected to be flammable under normal conditions of use.
Lower/upper explosion or flammability limits	No data available.
Flash point	No data available for the aqueous formulation.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
pH	No data available.
Kinematic viscosity	No data available.
Solubility	Soluble or miscible in water.

Partition coefficient (n-octanol/water)	No data available.
Vapor pressure	No data available.
Relative vapor density	No data available.
Relative density	No data available.
Evaporation rate	No data available.
Particle characteristics	Not applicable to the liquid mixture.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	Stable under recommended conditions, but incompatible reactions may occur with acids, bleach, and strong oxidizing agents.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Thiocyanates may generate poisonous gases in contact with strong acids. Contact with bleach (sodium hypochlorite) or strong oxidizing agents may also liberate toxic gases.
Conditions to avoid	Excessive heat, aerosol formation, and contact with incompatible chemicals.
Incompatible materials	Strong acids, bleach (sodium hypochlorite), strong oxidizing agents, and strong bases.
Hazardous decomposition products	Nitrogen oxides, sulfur oxides, carbon oxides, and other toxic or irritating fumes may form during combustion, strong heating, or incompatible reactions.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely routes of exposure	Inhalation of mist or spray, eye contact, skin contact, and ingestion.
Acute toxicity	Mixture conservatively classified as harmful if swallowed or inhaled. Guanidinium thiocyanate: reported oral LD50 (rat, female) 593 mg/kg; reported LD50 by another route (mouse) 300 mg/kg in reference SDS data.
Skin corrosion/irritation	Causes severe skin burns. Corrosive and destructive to tissue.
Serious eye damage/irritation	Causes serious eye damage and may cause irreversible injury.
Respiratory/skin sensitization	Not classified based on available data.
Germ cell mutagenicity	Not classified based on available data.
Carcinogenicity	No component at $\geq 0.1\%$ is known to be listed as a carcinogen by IARC, NTP, or OSHA based on available reference data.
Reproductive toxicity	Not classified based on available data.
STOT - single/repeated exposure	Not classified based on available data.
Aspiration hazard	Not classified based on available data.
Symptoms	Chemical burns of skin and eyes; respiratory irritation after mist exposure; gastrointestinal injury if swallowed.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity	Mixture conservatively classified as harmful to aquatic life with long lasting effects. Guanidinium thiocyanate reference data: fish LC50 89.1 mg/L (96 h); Daphnia EC50 42.4 mg/L (48 h).
Persistence and degradability	No mixture-specific data available.
Bioaccumulative potential	No mixture-specific data available. Significant bioaccumulation is not expected based on available information.
Mobility in soil	No data available.

Other adverse effects	Avoid uncontrolled release to the environment. Guanidinium thiocyanate reference data include a fish NOEC of 25 mg/L.
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SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods	Dispose of contents and container as hazardous chemical waste through a licensed waste-management provider in accordance with federal, state, and local requirements.
Special precautions	Do not mix liquid waste containing this product with acids, bleach, or strong oxidizing agents. Do not discharge concentrated product to drains or the environment.
Contaminated packaging	Dispose of as unused product unless adequately decontaminated by a validated compatible procedure. Do not reuse empty containers.

SECTION 14. TRANSPORT INFORMATION

DOT (49 CFR)	UN 1760, Corrosive liquid, n.o.s. (guanidinium thiocyanate), Class 8, Packing Group III.
IATA-DGR	UN 1760, Corrosive liquid, n.o.s. (guanidinium thiocyanate), Class 8, Packing Group III.
IMDG Code	UN 1760, CORROSIVE LIQUID, N.O.S. (guanidinium thiocyanate), Class 8, Packing Group III; marine pollutant: no.
Special precautions	Transport classification is based on analogous aqueous guanidinium-thiocyanate mixtures. Package-size, limited-quantity, and mode-specific provisions may apply. Verify the actual formulation, package, and current transport regulations before commercial shipment.

SECTION 15. REGULATORY INFORMATION

OSHA Hazard Communication	Hazardous chemical under 29 CFR 1910.1200 based on the classification in Section 2.
CERCLA	No component with a reportable quantity is known to be present based on available reference data.
SARA 302/304	No extremely hazardous substance with an applicable threshold planning or reportable quantity is known to be present.
SARA 311/312	Acute toxicity; skin corrosion or irritation; serious eye damage or eye irritation.
SARA 313	No listed toxic chemical is known to exceed the reporting threshold based on available reference data.
TSCA	Ingredients are expected to be listed on, or exempt from, the TSCA Chemical Substance Inventory. Verify before final release.
California Proposition 65	No listed chemical is known to be present based on the information supplied. Verify against the current list before final release.

SECTION 16. OTHER INFORMATION

Revision date	07/18/2026
Version	2.0
Prepared by	GM Biosciences, Inc.
Reference basis	Analogous manufacturer SDSs for aqueous guanidinium thiocyanate mixtures, supplier safety information for guanidinium thiocyanate, and OSHA Hazard Communication mixture-classification criteria.
Classification note	The classification and statements are based on information supplied by the product developer, the maximum disclosed concentration range, and analogous reference SDSs. No independent physical, toxicological, ecological, or transport testing of the finished mixture was provided.

Abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists; DOT: U.S. Department of Transportation; GHS: Globally Harmonized System; IARC: International Agency for Research on Cancer; IATA: International Air Transport Association; IMDG: International Maritime Dangerous Goods; NTP: National Toxicology Program; OSHA: Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; SARA: Superfund Amendments and Reauthorization Act; SDS: Safety Data Sheet; STOT: Specific Target Organ Toxicity; TSCA: Toxic Substances Control Act; TLV: Threshold Limit Value.
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SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Product name	Beads 4
Kit / Catalog number	DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum) / GM2016
Version / Revision date	Version 2.0 / 07/18/2026

SECTION 1. IDENTIFICATION

Product identifier	Beads 4
Other means of identification	Component of DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum), Cat. No. GM2016
Recommended use	Laboratory reagent used in isolation and purification of cell-free total nucleic acids from plasma or serum.
Restrictions on use	For research use only. Not for use in diagnostic procedures.
Manufacturer / responsible party	GM Biosciences, Inc.
U.S. address	5350 Partners Ct., Suite C, Frederick, MD 21703, USA
Telephone	240-595-9177
Email	support@gmbiosciences.com
Emergency telephone	240-595-9177 (normal business hours: 10:00 AM-5:00 PM Eastern Time)

SECTION 2. HAZARD(S) IDENTIFICATION

No GHS
pictogram**Not classified as a hazardous substance or mixture under the OSHA Hazard Communication Standard based on the information supplied.**

No signal word, hazard statement, or mandatory precautionary statement is required.

Other hazards	Standard laboratory precautions should be observed.
Hazards not otherwise classified	No applicable information available.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration (% w/w)	Notes
No hazardous ingredients required to be disclosed.	Not applicable	Not applicable	Mixture.

Note: Concentration is expressed as weight percent unless otherwise stated.

SECTION 4. FIRST-AID MEASURES

General advice	No special measures are expected to be required. Show this SDS to medical personnel if medical advice is sought.
Inhalation	Move to fresh air if discomfort occurs. Seek medical advice if symptoms persist.
Skin contact	Rinse with water. Remove contaminated clothing. Seek medical advice if irritation occurs.

Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical advice if irritation persists.
Ingestion	Rinse mouth. Do not induce vomiting. Seek medical advice if the person feels unwell.
Most important symptoms/effects	No significant acute or delayed effects are known under normal conditions of use.
Immediate medical attention	Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Water spray, foam, dry chemical, or carbon dioxide. Use measures appropriate to the surrounding fire.
Unsuitable extinguishing media	No specific limitation known.
Specific hazards	The product is not expected to be flammable. Heating may generate irritating fumes from container or minor organic constituents.
Firefighter protection	Use standard protective equipment and self-contained breathing apparatus when required by the surrounding fire.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Use normal laboratory PPE. Avoid splashes and unnecessary contact.
Environmental precautions	No special environmental precautions are expected to be necessary; avoid uncontrolled release.
Containment and cleanup	Absorb liquid with inert material and place in a suitable container. For bead suspensions, collect the suspension without allowing it to dry and disperse. Clean the area with water.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling	Follow good laboratory practice. Avoid contact with eyes and skin. Do not eat, drink, or smoke while handling.
Conditions for safe storage	Store at 4 °C. Do not freeze. Keep container tightly closed and properly labeled.
Specific end use	Laboratory reagent for recovery and purification of short nucleic acids from lysate-compatible flow-through samples. For research use only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits	Contains no substances with established occupational exposure limits based on the information supplied.
Engineering controls	General laboratory ventilation is adequate under normal conditions of use.
Eye/face protection	Safety glasses are recommended.
Hand protection	Laboratory gloves are recommended.
Skin/body protection	Laboratory coat or other suitable work clothing.
Respiratory protection	Not normally required.
Hygiene measures	Wash hands after handling and before breaks.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid magnetic bead suspension
Color	Brown to dark brown

Odor	Odorless
Odor threshold	No data available.
Melting point/freezing point	No data available.
Initial boiling point/range	No data available.
Flammability	Not expected to be flammable under normal conditions of use.
Lower/upper explosion or flammability limits	No data available.
Flash point	Not applicable or no data available for the aqueous formulation.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
pH	No data available.
Kinematic viscosity	No data available.
Solubility	Magnetic particles are dispersible in the aqueous carrier; the particles are not soluble.
Partition coefficient (n-octanol/water)	No data available.
Vapor pressure	No data available.
Relative vapor density	No data available.
Relative density	No data available.
Evaporation rate	No data available.
Particle characteristics	Magnetic particles dispersed in an aqueous liquid; particle size data not available.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	No specific reactivity hazard is known.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No dangerous reaction is expected under normal use.
Conditions to avoid	Extreme temperatures and contamination.
Incompatible materials	Strong oxidizing agents; strong acids and bases may be incompatible with some formulation components.
Hazardous decomposition products	No hazardous decomposition products are expected under normal storage and use.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely routes of exposure	Eye contact, skin contact, ingestion, or inhalation of aerosol.
Acute toxicity	Not classified based on available information.
Skin corrosion/irritation	Not classified; transient irritation is possible in susceptible individuals.
Serious eye damage/irritation	Not classified; direct contact may cause temporary discomfort.
Respiratory/skin sensitization	Not classified based on available information.
Germ cell mutagenicity	No data available; not classified.
Carcinogenicity	No ingredient at $\geq 0.1\%$ is known to be listed as a carcinogen by IARC, NTP, or OSHA based on the information supplied.
Reproductive toxicity	No data available; not classified.

STOT - single/repeated exposure	No data available; not classified.
Aspiration hazard	Not classified.
Symptoms	No significant symptoms are expected under normal conditions of use.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity	No product-specific data available.
Persistence and degradability	No data available.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No data available. Avoid uncontrolled release to the environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods	Dispose of contents and container in accordance with federal, state, and local requirements. Small laboratory quantities may be handled according to institutional procedures.
Contaminated packaging	Dispose of as unused product unless adequately cleaned. Do not reuse empty containers for other purposes.

SECTION 14. TRANSPORT INFORMATION

DOT (49 CFR)	Not regulated as a dangerous good.
IATA-DGR	Not regulated as a dangerous good.
IMDG Code	Not regulated as a dangerous good.
Special precautions	Keep containers tightly closed and protected from damage. Final transport classification must be verified before commercial shipment.

SECTION 15. REGULATORY INFORMATION

OSHA Hazard Communication	Not classified as hazardous under 29 CFR 1910.1200 based on the information supplied.
CERCLA	No reportable component is known to be present.
SARA 302/304	No listed extremely hazardous substance is known to be present.
SARA 311/312	No SARA hazard category is expected to apply.
SARA 313	No listed toxic chemical is known to exceed a reporting threshold.
TSCA	Ingredients are expected to be listed on, or exempt from, the TSCA Chemical Substance Inventory. Verify before final release.
California Proposition 65	No listed chemical is known to be present based on the information supplied. Verify against the current list before final release.

SECTION 16. OTHER INFORMATION

Revision date	07/18/2026
Version	2.0
Prepared by	GM Biosciences, Inc.

Reference basis	Analogous nonhazardous buffer or magnetic-bead SDSs supplied by the product developer.
Classification note	The classification and statements are based on information supplied by the product developer, maximum disclosed concentrations, and analogous reference SDSs. No independent physical, toxicological, or transport testing of the finished mixture was provided.
Abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists; DOT: U.S. Department of Transportation; GHS: Globally Harmonized System; IARC: International Agency for Research on Cancer; IATA: International Air Transport Association; IMDG: International Maritime Dangerous Goods; NTP: National Toxicology Program; OSHA: Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; SARA: Superfund Amendments and Reauthorization Act; SDS: Safety Data Sheet; STOT: Specific Target Organ Toxicity; TSCA: Toxic Substances Control Act; TLV: Threshold Limit Value.

Disclaimer: The information provided in this Safety Data Sheet is believed to be accurate and represents the best information currently available to GM Biosciences, Inc. as of the revision date. The information is intended solely as guidance for the safe handling, use, processing, storage, transportation, disposal, and release of the designated product and is not to be considered a warranty or quality specification. The information relates only to the specific material identified and may not be valid when the material is used in combination with other materials or in any process unless specifically stated. GM Biosciences, Inc. assumes no responsibility for damage, injury, or loss resulting from improper handling, use contrary to recommended procedures, or failure to comply with applicable laws and regulations. Users are responsible for determining the suitability of this information for their particular purposes and for obtaining qualified regulatory review before commercial distribution.

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Product name	W5 Concentrate
Kit / Catalog number	DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum) / GM2016
Version / Revision date	Version 2.0 / 07/18/2026

SECTION 1. IDENTIFICATION

Product identifier	W5 Concentrate
Other means of identification	Component of DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum), Cat. No. GM2016
Recommended use	Laboratory reagent used in isolation and purification of cell-free total nucleic acids from plasma or serum.
Restrictions on use	For research use only. Not for use in diagnostic procedures.
Manufacturer / responsible party	GM Biosciences, Inc.
U.S. address	5350 Partners Ct., Suite C, Frederick, MD 21703, USA
Telephone	240-595-9177
Email	support@gmbiosciences.com
Emergency telephone	240-595-9177 (normal business hours: 10:00 AM-5:00 PM Eastern Time)

SECTION 2. HAZARD(S) IDENTIFICATION

OSHA/GHS classification	Acute toxicity (oral), Category 4; Acute toxicity (inhalation), Category 4; Skin corrosion, Category 1C; Serious eye damage, Category 1; Hazardous to the aquatic environment (chronic), Category 3.
Classification basis	Conservative classification based on the supplied ≥ 30 to $< 60\%$ guanidinium thiocyanate concentration range and analogous aqueous-mixture SDS data.
Hazards not otherwise classified	Contact with acids or bleach (sodium hypochlorite) may liberate toxic gases. Do not mix this product or its waste with acids, bleach, or strong oxidizing agents.

**Signal word: DANGER****Hazard statements:****H302 + H332 Harmful if swallowed or if inhaled.****H314 Causes severe skin burns and eye damage.****H412 Harmful to aquatic life with long lasting effects.****Precautionary statements**

- P260 Do not breathe the mist or spray.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink, or smoke when using this product.
- P273 Avoid release to the environment.
- P280 Wear protective gloves, protective clothing, and eye/face protection.
- P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.
- P363 Wash contaminated clothing before reuse.

- P405 Store locked up.
- P501 Dispose of contents/container in accordance with applicable regulations.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration (% w/w)	Notes
Guanidinium thiocyanate	593-84-0	>= 30 - < 60	Exact concentration withheld as a trade secret. Synonym: guanidine thiocyanate.

Note: Concentration is expressed as weight percent unless otherwise stated.

SECTION 4. FIRST-AID MEASURES

General advice	Move the exposed person out of the danger area. Show this SDS to medical personnel. Obtain immediate medical attention after significant exposure.
Inhalation	Move to fresh air and keep comfortable for breathing. If breathing is difficult, trained personnel may provide oxygen. Call a POISON CENTER or physician if the person feels unwell or symptoms occur.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower and wash thoroughly with soap and plenty of water for at least 15 minutes. Obtain immediate medical attention. Wash contaminated clothing before reuse.
Eye contact	Rinse cautiously and immediately with water for at least 15 minutes, including under the eyelids. Remove contact lenses if present and easy to do. Continue rinsing and immediately call a POISON CENTER or physician. Serious and potentially irreversible eye damage may occur.
Ingestion	Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or physician. Never give anything by mouth to an unconscious person.
Most important symptoms/effects	Harmful if swallowed or inhaled. Causes severe skin burns and serious eye damage. Exposure may cause respiratory irritation and gastrointestinal injury.
Immediate medical attention	Treat symptomatically. Chemical burns may require urgent specialist evaluation. No specific antidote is known.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Water spray, alcohol-resistant foam, dry chemical, or carbon dioxide. Use measures appropriate to the surrounding fire.
Unsuitable extinguishing media	No specific limitation known. Avoid methods that spread contaminated runoff.
Specific hazards	The product is not expected to be flammable. Heating or fire may generate toxic or irritating fumes, including nitrogen oxides, sulfur oxides, carbon oxides, and thiocyanate decomposition products.
Firefighter protection	Wear self-contained breathing apparatus and full protective equipment. Do not breathe combustion fumes and prevent contaminated firefighting runoff from entering drains or waterways.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Restrict access. Ensure adequate ventilation. Avoid breathing mist or spray and avoid all contact with skin and eyes. Wear chemical-resistant gloves, protective clothing, and eye/face protection.
Environmental precautions	Prevent entry into drains, surface water, and soil. Stop the leak if it can be done safely.
Containment and cleanup	Absorb with inert material such as sand, vermiculite, or universal binder. Collect in a closed, compatible, labeled container for hazardous-waste disposal. Clean the affected area with water after material is removed.

Special caution	Do not use bleach, acids, or strong oxidizing cleaners on the spill or on waste containing this product; toxic gases may be released.
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SECTION 7. HANDLING AND STORAGE

Precautions for safe handling	Use with adequate ventilation. Do not breathe mist or spray. Avoid ingestion and all contact with skin and eyes. Wear protective gloves, protective clothing, and eye/face protection. Do not eat, drink, or smoke while handling. Wash thoroughly after handling.
Conditions for safe storage	Store at room temperature in the original, tightly closed, properly labeled container. Keep in a dry, well-ventilated place. Protect from excessive heat and direct sunlight. Store away from acids, bleach (sodium hypochlorite), strong oxidizing agents, and incompatible chemicals. Store locked up or in a controlled-access laboratory area.
Specific end use	Laboratory reagent for isolation and purification of cell-free total nucleic acids from plasma or serum. For research use only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits	No OSHA PEL or ACGIH TLV has been established for guanidinium thiocyanate.
Engineering controls	Provide effective general ventilation and local exhaust where mist or spray may be generated. Ensure eyewash stations and safety showers are immediately accessible.
Eye/face protection	Tightly fitting chemical splash goggles and a face shield.
Hand protection	Chemical-resistant protective gloves. Select glove material and breakthrough time based on the glove supplier recommendation and the specific working conditions.
Skin/body protection	Laboratory coat and chemical-resistant protective clothing appropriate for corrosive liquids. Use closed footwear.
Respiratory protection	Normally not required when adequate ventilation prevents mist or aerosol exposure. If exposure cannot be controlled, use a NIOSH-approved respirator selected under a written respiratory-protection program.
Hygiene measures	Keep away from food and drink. Wash hands and exposed skin thoroughly after handling. Remove contaminated clothing immediately and wash before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Color	Colorless to light yellow
Odor	Characteristic
Odor threshold	No data available.
Melting point/freezing point	No data available.
Initial boiling point/range	No data available.
Flammability	Not expected to be flammable under normal conditions of use.
Lower/upper explosion or flammability limits	No data available.
Flash point	No data available for the aqueous formulation.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
pH	No data available.
Kinematic viscosity	No data available.
Solubility	Soluble or miscible in water.

Partition coefficient (n-octanol/water)	No data available.
Vapor pressure	No data available.
Relative vapor density	No data available.
Relative density	No data available.
Evaporation rate	No data available.
Particle characteristics	Not applicable to the liquid mixture.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	Stable under recommended conditions, but incompatible reactions may occur with acids, bleach, and strong oxidizing agents.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Thiocyanates may generate poisonous gases in contact with strong acids. Contact with bleach (sodium hypochlorite) or strong oxidizing agents may also liberate toxic gases.
Conditions to avoid	Excessive heat, aerosol formation, and contact with incompatible chemicals.
Incompatible materials	Strong acids, bleach (sodium hypochlorite), strong oxidizing agents, and strong bases.
Hazardous decomposition products	Nitrogen oxides, sulfur oxides, carbon oxides, and other toxic or irritating fumes may form during combustion, strong heating, or incompatible reactions.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely routes of exposure	Inhalation of mist or spray, eye contact, skin contact, and ingestion.
Acute toxicity	Mixture conservatively classified as harmful if swallowed or inhaled. Guanidinium thiocyanate: reported oral LD50 (rat, female) 593 mg/kg; reported LD50 by another route (mouse) 300 mg/kg in reference SDS data.
Skin corrosion/irritation	Causes severe skin burns. Corrosive and destructive to tissue.
Serious eye damage/irritation	Causes serious eye damage and may cause irreversible injury.
Respiratory/skin sensitization	Not classified based on available data.
Germ cell mutagenicity	Not classified based on available data.
Carcinogenicity	No component at $\geq 0.1\%$ is known to be listed as a carcinogen by IARC, NTP, or OSHA based on available reference data.
Reproductive toxicity	Not classified based on available data.
STOT - single/repeated exposure	Not classified based on available data.
Aspiration hazard	Not classified based on available data.
Symptoms	Chemical burns of skin and eyes; respiratory irritation after mist exposure; gastrointestinal injury if swallowed.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity	Mixture conservatively classified as harmful to aquatic life with long lasting effects. Guanidinium thiocyanate reference data: fish LC50 89.1 mg/L (96 h); Daphnia EC50 42.4 mg/L (48 h).
Persistence and degradability	No mixture-specific data available.
Bioaccumulative potential	No mixture-specific data available. Significant bioaccumulation is not expected based on available information.
Mobility in soil	No data available.

Other adverse effects	Avoid uncontrolled release to the environment. Guanidinium thiocyanate reference data include a fish NOEC of 25 mg/L.
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SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods	Dispose of contents and container as hazardous chemical waste through a licensed waste-management provider in accordance with federal, state, and local requirements.
Special precautions	Do not mix liquid waste containing this product with acids, bleach, or strong oxidizing agents. Do not discharge concentrated product to drains or the environment.
Contaminated packaging	Dispose of as unused product unless adequately decontaminated by a validated compatible procedure. Do not reuse empty containers.

SECTION 14. TRANSPORT INFORMATION

DOT (49 CFR)	UN 1760, Corrosive liquid, n.o.s. (guanidinium thiocyanate), Class 8, Packing Group III.
IATA-DGR	UN 1760, Corrosive liquid, n.o.s. (guanidinium thiocyanate), Class 8, Packing Group III.
IMDG Code	UN 1760, CORROSIVE LIQUID, N.O.S. (guanidinium thiocyanate), Class 8, Packing Group III; marine pollutant: no.
Special precautions	Transport classification is based on analogous aqueous guanidinium-thiocyanate mixtures. Package-size, limited-quantity, and mode-specific provisions may apply. Verify the actual formulation, package, and current transport regulations before commercial shipment.

SECTION 15. REGULATORY INFORMATION

OSHA Hazard Communication	Hazardous chemical under 29 CFR 1910.1200 based on the classification in Section 2.
CERCLA	No component with a reportable quantity is known to be present based on available reference data.
SARA 302/304	No extremely hazardous substance with an applicable threshold planning or reportable quantity is known to be present.
SARA 311/312	Acute toxicity; skin corrosion or irritation; serious eye damage or eye irritation.
SARA 313	No listed toxic chemical is known to exceed the reporting threshold based on available reference data.
TSCA	Ingredients are expected to be listed on, or exempt from, the TSCA Chemical Substance Inventory. Verify before final release.
California Proposition 65	No listed chemical is known to be present based on the information supplied. Verify against the current list before final release.

SECTION 16. OTHER INFORMATION

Revision date	07/18/2026
Version	2.0
Prepared by	GM Biosciences, Inc.
Reference basis	Analogous manufacturer SDSs for aqueous guanidinium thiocyanate mixtures, supplier safety information for guanidinium thiocyanate, and OSHA Hazard Communication mixture-classification criteria.
Classification note	The classification and statements are based on information supplied by the product developer, the maximum disclosed concentration range, and analogous reference SDSs. No independent physical, toxicological, ecological, or transport testing of the finished mixture was provided.

Abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists; DOT: U.S. Department of Transportation; GHS: Globally Harmonized System; IARC: International Agency for Research on Cancer; IATA: International Air Transport Association; IMDG: International Maritime Dangerous Goods; NTP: National Toxicology Program; OSHA: Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; SARA: Superfund Amendments and Reauthorization Act; SDS: Safety Data Sheet; STOT: Specific Target Organ Toxicity; TSCA: Toxic Substances Control Act; TLV: Threshold Limit Value.
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Disclaimer: The information provided in this Safety Data Sheet is believed to be accurate and represents the best information currently available to GM Biosciences, Inc. as of the revision date. The information is intended solely as guidance for the safe handling, use, processing, storage, transportation, disposal, and release of the designated product and is not to be considered a warranty or quality specification. The information relates only to the specific material identified and may not be valid when the material is used in combination with other materials or in any process unless specifically stated. GM Biosciences, Inc. assumes no responsibility for damage, injury, or loss resulting from improper handling, use contrary to recommended procedures, or failure to comply with applicable laws and regulations. Users are responsible for determining the suitability of this information for their particular purposes and for obtaining qualified regulatory review before commercial distribution.

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Product name	SS6 Buffer
Kit / Catalog number	DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum) / GM2016
Version / Revision date	Version 2.0 / 07/18/2026

SECTION 1. IDENTIFICATION

Product identifier	SS6 Buffer
Other means of identification	Component of DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum), Cat. No. GM2016
Recommended use	Laboratory reagent used in isolation and purification of cell-free total nucleic acids from plasma or serum.
Restrictions on use	For research use only. Not for use in diagnostic procedures.
Manufacturer / responsible party	GM Biosciences, Inc.
U.S. address	5350 Partners Ct., Suite C, Frederick, MD 21703, USA
Telephone	240-595-9177
Email	support@gmbiosciences.com
Emergency telephone	240-595-9177 (normal business hours: 10:00 AM-5:00 PM Eastern Time)

SECTION 2. HAZARD(S) IDENTIFICATION

OSHA/GHS classification	Acute toxicity (oral), Category 4; Acute toxicity (inhalation), Category 4; Skin corrosion, Category 1C; Serious eye damage, Category 1; Hazardous to the aquatic environment (chronic), Category 3.
Classification basis	Conservative classification based on the supplied ≥ 30 to $< 60\%$ guanidinium thiocyanate concentration range and analogous aqueous-mixture SDS data.
Hazards not otherwise classified	Contact with acids or bleach (sodium hypochlorite) may liberate toxic gases. Do not mix this product or its waste with acids, bleach, or strong oxidizing agents.

**Signal word: DANGER****Hazard statements:****H302 + H332 Harmful if swallowed or if inhaled.****H314 Causes severe skin burns and eye damage.****H412 Harmful to aquatic life with long lasting effects.****Precautionary statements**

- P260 Do not breathe mist or spray.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink, or smoke when using this product.
- P273 Avoid release to the environment.
- P280 Wear protective gloves, protective clothing, and eye/face protection.
- P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.
- P363 Wash contaminated clothing before reuse.

- P405 Store locked up.
- P501 Dispose of contents/container in accordance with applicable regulations.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration (% w/w)	Notes
Guanidinium thiocyanate	593-84-0	>= 30 - < 60	Exact concentration withheld as a trade secret. Synonym: guanidine thiocyanate.

Note: Concentration is expressed as weight percent unless otherwise stated.

SECTION 4. FIRST-AID MEASURES

General advice	Move the exposed person out of the danger area. Show this SDS to medical personnel. Obtain immediate medical attention after significant exposure.
Inhalation	Move to fresh air and keep comfortable for breathing. If breathing is difficult, trained personnel may provide oxygen. Call a POISON CENTER or physician if the person feels unwell or symptoms occur.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower and wash thoroughly with soap and plenty of water for at least 15 minutes. Obtain immediate medical attention. Wash contaminated clothing before reuse.
Eye contact	Rinse cautiously and immediately with water for at least 15 minutes, including under the eyelids. Remove contact lenses if present and easy to do. Continue rinsing and immediately call a POISON CENTER or physician. Serious and potentially irreversible eye damage may occur.
Ingestion	Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or physician. Never give anything by mouth to an unconscious person.
Most important symptoms/effects	Harmful if swallowed or inhaled. Causes severe skin burns and serious eye damage. Exposure may cause respiratory irritation and gastrointestinal injury.
Immediate medical attention	Treat symptomatically. Chemical burns may require urgent specialist evaluation. No specific antidote is known.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Water spray, alcohol-resistant foam, dry chemical, or carbon dioxide. Use measures appropriate to the surrounding fire.
Unsuitable extinguishing media	No specific limitation known. Avoid methods that spread contaminated runoff.
Specific hazards	The product is not expected to be flammable. Heating or fire may generate toxic or irritating fumes, including nitrogen oxides, sulfur oxides, carbon oxides, and thiocyanate decomposition products.
Firefighter protection	Wear self-contained breathing apparatus and full protective equipment. Do not breathe combustion fumes and prevent contaminated firefighting runoff from entering drains or waterways.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Restrict access. Ensure adequate ventilation. Avoid breathing mist or spray and avoid all contact with skin and eyes. Wear chemical-resistant gloves, protective clothing, and eye/face protection.
Environmental precautions	Prevent entry into drains, surface water, and soil. Stop the leak if it can be done safely.
Containment and cleanup	Absorb with inert material such as sand, vermiculite, or universal binder. Collect in a closed, compatible, labeled container for hazardous-waste disposal. Clean the affected area with water after material is removed.

Special caution	Do not use bleach, acids, or strong oxidizing cleaners on the spill or on waste containing this product; toxic gases may be released.
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SECTION 7. HANDLING AND STORAGE

Precautions for safe handling	Use with adequate ventilation. Do not breathe mist or spray. Avoid ingestion and all contact with skin and eyes. Wear protective gloves, protective clothing, and eye/face protection. Do not eat, drink, or smoke while handling. Wash thoroughly after handling.
Conditions for safe storage	Store at room temperature in the original, tightly closed, properly labeled container. Keep in a dry, well-ventilated place. Protect from excessive heat and direct sunlight. Store away from acids, bleach (sodium hypochlorite), strong oxidizing agents, and incompatible chemicals. Store locked up or in a controlled-access laboratory area.
Specific end use	Laboratory reagent for isolation and purification of cell-free total nucleic acids from plasma or serum. For research use only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits	No OSHA PEL or ACGIH TLV has been established for guanidinium thiocyanate.
Engineering controls	Provide effective general ventilation and local exhaust where mist or spray may be generated. Ensure eyewash stations and safety showers are immediately accessible.
Eye/face protection	Tightly fitting chemical splash goggles and a face shield.
Hand protection	Chemical-resistant protective gloves. Select glove material and breakthrough time based on the glove supplier recommendation and the specific working conditions.
Skin/body protection	Laboratory coat and chemical-resistant protective clothing appropriate for corrosive liquids. Use closed footwear.
Respiratory protection	Normally not required when adequate ventilation prevents mist or aerosol exposure. If exposure cannot be controlled, use a NIOSH-approved respirator selected under a written respiratory-protection program.
Hygiene measures	Keep away from food and drink. Wash hands and exposed skin thoroughly after handling. Remove contaminated clothing immediately and wash before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Color	Colorless to light yellow
Odor	Characteristic
Odor threshold	No data available.
Melting point/freezing point	No data available.
Initial boiling point/range	No data available.
Flammability	Not expected to be flammable under normal conditions of use.
Lower/upper explosion or flammability limits	No data available.
Flash point	No data available for the aqueous formulation.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
pH	No data available.
Kinematic viscosity	No data available.
Solubility	Soluble or miscible in water.

Partition coefficient (n-octanol/water)	No data available.
Vapor pressure	No data available.
Relative vapor density	No data available.
Relative density	No data available.
Evaporation rate	No data available.
Particle characteristics	Not applicable to the liquid mixture.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	Stable under recommended conditions, but incompatible reactions may occur with acids, bleach, and strong oxidizing agents.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Thiocyanates may generate poisonous gases in contact with strong acids. Contact with bleach (sodium hypochlorite) or strong oxidizing agents may also liberate toxic gases.
Conditions to avoid	Excessive heat, aerosol formation, and contact with incompatible chemicals.
Incompatible materials	Strong acids, bleach (sodium hypochlorite), strong oxidizing agents, and strong bases.
Hazardous decomposition products	Nitrogen oxides, sulfur oxides, carbon oxides, and other toxic or irritating fumes may form during combustion, strong heating, or incompatible reactions.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely routes of exposure	Inhalation of mist or spray, eye contact, skin contact, and ingestion.
Acute toxicity	Mixture conservatively classified as harmful if swallowed or inhaled. Guanidinium thiocyanate: reported oral LD50 (rat, female) 593 mg/kg; reported LD50 by another route (mouse) 300 mg/kg in reference SDS data.
Skin corrosion/irritation	Causes severe skin burns. Corrosive and destructive to tissue.
Serious eye damage/irritation	Causes serious eye damage and may cause irreversible injury.
Respiratory/skin sensitization	Not classified based on available data.
Germ cell mutagenicity	Not classified based on available data.
Carcinogenicity	No component at $\geq 0.1\%$ is known to be listed as a carcinogen by IARC, NTP, or OSHA based on available reference data.
Reproductive toxicity	Not classified based on available data.
STOT - single/repeated exposure	Not classified based on available data.
Aspiration hazard	Not classified based on available data.
Symptoms	Chemical burns of skin and eyes; respiratory irritation after mist exposure; gastrointestinal injury if swallowed.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity	Mixture conservatively classified as harmful to aquatic life with long lasting effects. Guanidinium thiocyanate reference data: fish LC50 89.1 mg/L (96 h); Daphnia EC50 42.4 mg/L (48 h).
Persistence and degradability	No mixture-specific data available.
Bioaccumulative potential	No mixture-specific data available. Significant bioaccumulation is not expected based on available information.
Mobility in soil	No data available.

Other adverse effects	Avoid uncontrolled release to the environment. Guanidinium thiocyanate reference data include a fish NOEC of 25 mg/L.
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SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods	Dispose of contents and container as hazardous chemical waste through a licensed waste-management provider in accordance with federal, state, and local requirements.
Special precautions	Do not mix liquid waste containing this product with acids, bleach, or strong oxidizing agents. Do not discharge concentrated product to drains or the environment.
Contaminated packaging	Dispose of as unused product unless adequately decontaminated by a validated compatible procedure. Do not reuse empty containers.

SECTION 14. TRANSPORT INFORMATION

DOT (49 CFR)	UN 1760, Corrosive liquid, n.o.s. (guanidinium thiocyanate), Class 8, Packing Group III.
IATA-DGR	UN 1760, Corrosive liquid, n.o.s. (guanidinium thiocyanate), Class 8, Packing Group III.
IMDG Code	UN 1760, CORROSIVE LIQUID, N.O.S. (guanidinium thiocyanate), Class 8, Packing Group III; marine pollutant: no.
Special precautions	Transport classification is based on analogous aqueous guanidinium-thiocyanate mixtures. Package-size, limited-quantity, and mode-specific provisions may apply. Verify the actual formulation, package, and current transport regulations before commercial shipment.

SECTION 15. REGULATORY INFORMATION

OSHA Hazard Communication	Hazardous chemical under 29 CFR 1910.1200 based on the classification in Section 2.
CERCLA	No component with a reportable quantity is known to be present based on available reference data.
SARA 302/304	No extremely hazardous substance with an applicable threshold planning or reportable quantity is known to be present.
SARA 311/312	Acute toxicity; skin corrosion or irritation; serious eye damage or eye irritation.
SARA 313	No listed toxic chemical is known to exceed the reporting threshold based on available reference data.
TSCA	Ingredients are expected to be listed on, or exempt from, the TSCA Chemical Substance Inventory. Verify before final release.
California Proposition 65	No listed chemical is known to be present based on the information supplied. Verify against the current list before final release.

SECTION 16. OTHER INFORMATION

Revision date	07/18/2026
Version	2.0
Prepared by	GM Biosciences, Inc.
Reference basis	Analogous manufacturer SDSs for aqueous guanidinium thiocyanate mixtures, supplier safety information for guanidinium thiocyanate, and OSHA Hazard Communication mixture-classification criteria.
Classification note	The classification and statements are based on information supplied by the product developer, the maximum disclosed concentration range, and analogous reference SDSs. No independent physical, toxicological, ecological, or transport testing of the finished mixture was provided.

Abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists; DOT: U.S. Department of Transportation; GHS: Globally Harmonized System; IARC: International Agency for Research on Cancer; IATA: International Air Transport Association; IMDG: International Maritime Dangerous Goods; NTP: National Toxicology Program; OSHA: Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; SARA: Superfund Amendments and Reauthorization Act; SDS: Safety Data Sheet; STOT: Specific Target Organ Toxicity; TSCA: Toxic Substances Control Act; TLV: Threshold Limit Value.
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Disclaimer: The information provided in this Safety Data Sheet is believed to be accurate and represents the best information currently available to GM Biosciences, Inc. as of the revision date. The information is intended solely as guidance for the safe handling, use, processing, storage, transportation, disposal, and release of the designated product and is not to be considered a warranty or quality specification. The information relates only to the specific material identified and may not be valid when the material is used in combination with other materials or in any process unless specifically stated. GM Biosciences, Inc. assumes no responsibility for damage, injury, or loss resulting from improper handling, use contrary to recommended procedures, or failure to comply with applicable laws and regulations. Users are responsible for determining the suitability of this information for their particular purposes and for obtaining qualified regulatory review before commercial distribution.

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Product name	E7 Buffer
Kit / Catalog number	DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum) / GM2016
Version / Revision date	Version 2.0 / 07/18/2026

SECTION 1. IDENTIFICATION

Product identifier	E7 Buffer
Other means of identification	Component of DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum), Cat. No. GM2016
Recommended use	Laboratory reagent used in isolation and purification of cell-free total nucleic acids from plasma or serum.
Restrictions on use	For research use only. Not for use in diagnostic procedures.
Manufacturer / responsible party	GM Biosciences, Inc.
U.S. address	5350 Partners Ct., Suite C, Frederick, MD 21703, USA
Telephone	240-595-9177
Email	support@gmbiosciences.com
Emergency telephone	240-595-9177 (normal business hours: 10:00 AM-5:00 PM Eastern Time)

SECTION 2. HAZARD(S) IDENTIFICATION

No GHS
pictogram**Not classified as a hazardous substance or mixture under the OSHA Hazard Communication Standard based on the information supplied.**

No signal word, hazard statement, or mandatory precautionary statement is required.

Other hazards	Standard laboratory precautions should be observed.
Hazards not otherwise classified	No applicable information available.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration (% w/w)	Notes
No hazardous ingredients required to be disclosed.	Not applicable	Not applicable	Mixture.

Note: Concentration is expressed as weight percent unless otherwise stated.

SECTION 4. FIRST-AID MEASURES

General advice	No special measures are expected to be required. Show this SDS to medical personnel if medical advice is sought.
Inhalation	Move to fresh air if discomfort occurs. Seek medical advice if symptoms persist.
Skin contact	Rinse with water. Remove contaminated clothing. Seek medical advice if irritation occurs.

Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical advice if irritation persists.
Ingestion	Rinse mouth. Do not induce vomiting. Seek medical advice if the person feels unwell.
Most important symptoms/effects	No significant acute or delayed effects are known under normal conditions of use.
Immediate medical attention	Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Water spray, foam, dry chemical, or carbon dioxide. Use measures appropriate to the surrounding fire.
Unsuitable extinguishing media	No specific limitation known.
Specific hazards	The product is not expected to be flammable. Heating may generate irritating fumes from container or minor organic constituents.
Firefighter protection	Use standard protective equipment and self-contained breathing apparatus when required by the surrounding fire.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Use normal laboratory PPE. Avoid splashes and unnecessary contact.
Environmental precautions	No special environmental precautions are expected to be necessary; avoid uncontrolled release.
Containment and cleanup	Absorb with inert material and place in a suitable container. Clean the area with water.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling	Follow good laboratory practice. Avoid contact with eyes and skin. Do not eat, drink, or smoke while handling.
Conditions for safe storage	Store at room temperature. Keep container tightly closed and properly labeled.
Specific end use	Laboratory reagent for recovery and purification of short nucleic acids from lysate-compatible flow-through samples. For research use only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits	Contains no substances with established occupational exposure limits based on the information supplied.
Engineering controls	General laboratory ventilation is adequate under normal conditions of use.
Eye/face protection	Safety glasses are recommended.
Hand protection	Laboratory gloves are recommended.
Skin/body protection	Laboratory coat or other suitable work clothing.
Respiratory protection	Not normally required.
Hygiene measures	Wash hands after handling and before breaks.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Color	Colorless
Odor	Odorless

Odor threshold	No data available.
Melting point/freezing point	No data available.
Initial boiling point/range	No data available.
Flammability	Not expected to be flammable under normal conditions of use.
Lower/upper explosion or flammability limits	No data available.
Flash point	Not applicable or no data available for the aqueous formulation.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
pH	No data available.
Kinematic viscosity	No data available.
Solubility	Miscible in water.
Partition coefficient (n-octanol/water)	No data available.
Vapor pressure	No data available.
Relative vapor density	No data available.
Relative density	No data available.
Evaporation rate	No data available.
Particle characteristics	Not applicable to the liquid mixture.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	No specific reactivity hazard is known.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No dangerous reaction is expected under normal use.
Conditions to avoid	Extreme temperatures and contamination.
Incompatible materials	Strong oxidizing agents; strong acids and bases may be incompatible with some formulation components.
Hazardous decomposition products	No hazardous decomposition products are expected under normal storage and use.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely routes of exposure	Eye contact, skin contact, ingestion, or inhalation of aerosol.
Acute toxicity	Not classified based on available information.
Skin corrosion/irritation	Not classified; transient irritation is possible in susceptible individuals.
Serious eye damage/irritation	Not classified; direct contact may cause temporary discomfort.
Respiratory/skin sensitization	Not classified based on available information.
Germ cell mutagenicity	No data available; not classified.
Carcinogenicity	No ingredient at $\geq 0.1\%$ is known to be listed as a carcinogen by IARC, NTP, or OSHA based on the information supplied.
Reproductive toxicity	No data available; not classified.
STOT - single/repeated exposure	No data available; not classified.

GM BIOSCIENCES

Aspiration hazard	Not classified.
Symptoms	No significant symptoms are expected under normal conditions of use.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity	No product-specific data available.
Persistence and degradability	No data available.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No data available. Avoid uncontrolled release to the environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods	Dispose of contents and container in accordance with federal, state, and local requirements. Small laboratory quantities may be handled according to institutional procedures.
Contaminated packaging	Dispose of as unused product unless adequately cleaned. Do not reuse empty containers for other purposes.

SECTION 14. TRANSPORT INFORMATION

DOT (49 CFR)	Not regulated as a dangerous good.
IATA-DGR	Not regulated as a dangerous good.
IMDG Code	Not regulated as a dangerous good.
Special precautions	Keep containers tightly closed and protected from damage. Final transport classification must be verified before commercial shipment.

SECTION 15. REGULATORY INFORMATION

OSHA Hazard Communication	Not classified as hazardous under 29 CFR 1910.1200 based on the information supplied.
CERCLA	No reportable component is known to be present.
SARA 302/304	No listed extremely hazardous substance is known to be present.
SARA 311/312	No SARA hazard category is expected to apply.
SARA 313	No listed toxic chemical is known to exceed a reporting threshold.
TSCA	Ingredients are expected to be listed on, or exempt from, the TSCA Chemical Substance Inventory. Verify before final release.
California Proposition 65	No listed chemical is known to be present based on the information supplied. Verify against the current list before final release.

SECTION 16. OTHER INFORMATION

Revision date	07/18/2026
Version	2.0
Prepared by	GM Biosciences, Inc.
Reference basis	Analogous nonhazardous buffer or magnetic-bead SDSs supplied by the product developer.

Classification note	The classification and statements are based on information supplied by the product developer, maximum disclosed concentrations, and analogous reference SDSs. No independent physical, toxicological, or transport testing of the finished mixture was provided.
Abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists; DOT: U.S. Department of Transportation; GHS: Globally Harmonized System; IARC: International Agency for Research on Cancer; IATA: International Air Transport Association; IMDG: International Maritime Dangerous Goods; NTP: National Toxicology Program; OSHA: Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; SARA: Superfund Amendments and Reauthorization Act; SDS: Safety Data Sheet; STOT: Specific Target Organ Toxicity; TSCA: Toxic Substances Control Act; TLV: Threshold Limit Value.

Disclaimer: The information provided in this Safety Data Sheet is believed to be accurate and represents the best information currently available to GM Biosciences, Inc. as of the revision date. The information is intended solely as guidance for the safe handling, use, processing, storage, transportation, disposal, and release of the designated product and is not to be considered a warranty or quality specification. The information relates only to the specific material identified and may not be valid when the material is used in combination with other materials or in any process unless specifically stated. GM Biosciences, Inc. assumes no responsibility for damage, injury, or loss resulting from improper handling, use contrary to recommended procedures, or failure to comply with applicable laws and regulations. Users are responsible for determining the suitability of this information for their particular purposes and for obtaining qualified regulatory review before commercial distribution.

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Product name	BD8 Buffer
Kit / Catalog number	DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum) / GM2016
Version / Revision date	Version 2.0 / 07/18/2026

SECTION 1. IDENTIFICATION

Product identifier	BD8 Buffer
Other means of identification	Component of DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum), Cat. No. GM2016
Recommended use	Laboratory reagent used in isolation and purification of cell-free total nucleic acids from plasma or serum.
Restrictions on use	For research use only. Not for use in diagnostic procedures.
Manufacturer / responsible party	GM Biosciences, Inc.
U.S. address	5350 Partners Ct., Suite C, Frederick, MD 21703, USA
Telephone	240-595-9177
Email	support@gmbiosciences.com
Emergency telephone	240-595-9177 (normal business hours: 10:00 AM-5:00 PM Eastern Time)

SECTION 2. HAZARD(S) IDENTIFICATION

OSHA/GHS classification	Acute toxicity (oral), Category 4; Acute toxicity (inhalation), Category 4; Skin corrosion, Category 1C; Serious eye damage, Category 1; Hazardous to the aquatic environment (chronic), Category 3.
Classification basis	Conservative classification based on the supplied ≥ 30 to $< 60\%$ guanidinium thiocyanate concentration range and analogous aqueous-mixture SDS data.
Hazards not otherwise classified	Contact with acids or bleach (sodium hypochlorite) may liberate toxic gases. Do not mix this product or its waste with acids, bleach, or strong oxidizing agents.

**Signal word: DANGER****Hazard statements:****H302 + H332 Harmful if swallowed or if inhaled.****H314 Causes severe skin burns and eye damage.****H412 Harmful to aquatic life with long lasting effects.****Precautionary statements**

- P260 Do not breathe mist or spray.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink, or smoke when using this product.
- P273 Avoid release to the environment.
- P280 Wear protective gloves, protective clothing, and eye/face protection.
- P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.
- P363 Wash contaminated clothing before reuse.

- P405 Store locked up.
- P501 Dispose of contents/container in accordance with applicable regulations.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration (% w/w)	Notes
Guanidinium thiocyanate	593-84-0	>= 30 - < 60	Exact concentration withheld as a trade secret. Synonym: guanidine thiocyanate.

Note: Concentration is expressed as weight percent unless otherwise stated.

SECTION 4. FIRST-AID MEASURES

General advice	Move the exposed person out of the danger area. Show this SDS to medical personnel. Obtain immediate medical attention after significant exposure.
Inhalation	Move to fresh air and keep comfortable for breathing. If breathing is difficult, trained personnel may provide oxygen. Call a POISON CENTER or physician if the person feels unwell or symptoms occur.
Skin contact	Take off immediately all contaminated clothing. Rinse skin with water/shower and wash thoroughly with soap and plenty of water for at least 15 minutes. Obtain immediate medical attention. Wash contaminated clothing before reuse.
Eye contact	Rinse cautiously and immediately with water for at least 15 minutes, including under the eyelids. Remove contact lenses if present and easy to do. Continue rinsing and immediately call a POISON CENTER or physician. Serious and potentially irreversible eye damage may occur.
Ingestion	Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER or physician. Never give anything by mouth to an unconscious person.
Most important symptoms/effects	Harmful if swallowed or inhaled. Causes severe skin burns and serious eye damage. Exposure may cause respiratory irritation and gastrointestinal injury.
Immediate medical attention	Treat symptomatically. Chemical burns may require urgent specialist evaluation. No specific antidote is known.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Water spray, alcohol-resistant foam, dry chemical, or carbon dioxide. Use measures appropriate to the surrounding fire.
Unsuitable extinguishing media	No specific limitation known. Avoid methods that spread contaminated runoff.
Specific hazards	The product is not expected to be flammable. Heating or fire may generate toxic or irritating fumes, including nitrogen oxides, sulfur oxides, carbon oxides, and thiocyanate decomposition products.
Firefighter protection	Wear self-contained breathing apparatus and full protective equipment. Do not breathe combustion fumes and prevent contaminated firefighting runoff from entering drains or waterways.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Restrict access. Ensure adequate ventilation. Avoid breathing mist or spray and avoid all contact with skin and eyes. Wear chemical-resistant gloves, protective clothing, and eye/face protection.
Environmental precautions	Prevent entry into drains, surface water, and soil. Stop the leak if it can be done safely.
Containment and cleanup	Absorb with inert material such as sand, vermiculite, or universal binder. Collect in a closed, compatible, labeled container for hazardous-waste disposal. Clean the affected area with water after material is removed.

Special caution	Do not use bleach, acids, or strong oxidizing cleaners on the spill or on waste containing this product; toxic gases may be released.
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SECTION 7. HANDLING AND STORAGE

Precautions for safe handling	Use with adequate ventilation. Do not breathe mist or spray. Avoid ingestion and all contact with skin and eyes. Wear protective gloves, protective clothing, and eye/face protection. Do not eat, drink, or smoke while handling. Wash thoroughly after handling.
Conditions for safe storage	Store at room temperature in the original, tightly closed, properly labeled container. Keep in a dry, well-ventilated place. Protect from excessive heat and direct sunlight. Store away from acids, bleach (sodium hypochlorite), strong oxidizing agents, and incompatible chemicals. Store locked up or in a controlled-access laboratory area.
Specific end use	Laboratory reagent for isolation and purification of cell-free total nucleic acids from plasma or serum. For research use only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits	No OSHA PEL or ACGIH TLV has been established for guanidinium thiocyanate.
Engineering controls	Provide effective general ventilation and local exhaust where mist or spray may be generated. Ensure eyewash stations and safety showers are immediately accessible.
Eye/face protection	Tightly fitting chemical splash goggles and a face shield.
Hand protection	Chemical-resistant protective gloves. Select glove material and breakthrough time based on the glove supplier recommendation and the specific working conditions.
Skin/body protection	Laboratory coat and chemical-resistant protective clothing appropriate for corrosive liquids. Use closed footwear.
Respiratory protection	Normally not required when adequate ventilation prevents mist or aerosol exposure. If exposure cannot be controlled, use a NIOSH-approved respirator selected under a written respiratory-protection program.
Hygiene measures	Keep away from food and drink. Wash hands and exposed skin thoroughly after handling. Remove contaminated clothing immediately and wash before reuse.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Color	Colorless to light yellow
Odor	Characteristic
Odor threshold	No data available.
Melting point/freezing point	No data available.
Initial boiling point/range	No data available.
Flammability	Not expected to be flammable under normal conditions of use.
Lower/upper explosion or flammability limits	No data available.
Flash point	No data available for the aqueous formulation.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
pH	No data available.
Kinematic viscosity	No data available.
Solubility	Soluble or miscible in water.

Partition coefficient (n-octanol/water)	No data available.
Vapor pressure	No data available.
Relative vapor density	No data available.
Relative density	No data available.
Evaporation rate	No data available.
Particle characteristics	Not applicable to the liquid mixture.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	Stable under recommended conditions, but incompatible reactions may occur with acids, bleach, and strong oxidizing agents.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Thiocyanates may generate poisonous gases in contact with strong acids. Contact with bleach (sodium hypochlorite) or strong oxidizing agents may also liberate toxic gases.
Conditions to avoid	Excessive heat, aerosol formation, and contact with incompatible chemicals.
Incompatible materials	Strong acids, bleach (sodium hypochlorite), strong oxidizing agents, and strong bases.
Hazardous decomposition products	Nitrogen oxides, sulfur oxides, carbon oxides, and other toxic or irritating fumes may form during combustion, strong heating, or incompatible reactions.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely routes of exposure	Inhalation of mist or spray, eye contact, skin contact, and ingestion.
Acute toxicity	Mixture conservatively classified as harmful if swallowed or inhaled. Guanidinium thiocyanate: reported oral LD50 (rat, female) 593 mg/kg; reported LD50 by another route (mouse) 300 mg/kg in reference SDS data.
Skin corrosion/irritation	Causes severe skin burns. Corrosive and destructive to tissue.
Serious eye damage/irritation	Causes serious eye damage and may cause irreversible injury.
Respiratory/skin sensitization	Not classified based on available data.
Germ cell mutagenicity	Not classified based on available data.
Carcinogenicity	No component at $\geq 0.1\%$ is known to be listed as a carcinogen by IARC, NTP, or OSHA based on available reference data.
Reproductive toxicity	Not classified based on available data.
STOT - single/repeated exposure	Not classified based on available data.
Aspiration hazard	Not classified based on available data.
Symptoms	Chemical burns of skin and eyes; respiratory irritation after mist exposure; gastrointestinal injury if swallowed.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity	Mixture conservatively classified as harmful to aquatic life with long lasting effects. Guanidinium thiocyanate reference data: fish LC50 89.1 mg/L (96 h); Daphnia EC50 42.4 mg/L (48 h).
Persistence and degradability	No mixture-specific data available.
Bioaccumulative potential	No mixture-specific data available. Significant bioaccumulation is not expected based on available information.
Mobility in soil	No data available.

Other adverse effects	Avoid uncontrolled release to the environment. Guanidinium thiocyanate reference data include a fish NOEC of 25 mg/L.
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SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods	Dispose of contents and container as hazardous chemical waste through a licensed waste-management provider in accordance with federal, state, and local requirements.
Special precautions	Do not mix liquid waste containing this product with acids, bleach, or strong oxidizing agents. Do not discharge concentrated product to drains or the environment.
Contaminated packaging	Dispose of as unused product unless adequately decontaminated by a validated compatible procedure. Do not reuse empty containers.

SECTION 14. TRANSPORT INFORMATION

DOT (49 CFR)	UN 1760, Corrosive liquid, n.o.s. (guanidinium thiocyanate), Class 8, Packing Group III.
IATA-DGR	UN 1760, Corrosive liquid, n.o.s. (guanidinium thiocyanate), Class 8, Packing Group III.
IMDG Code	UN 1760, CORROSIVE LIQUID, N.O.S. (guanidinium thiocyanate), Class 8, Packing Group III; marine pollutant: no.
Special precautions	Transport classification is based on analogous aqueous guanidinium-thiocyanate mixtures. Package-size, limited-quantity, and mode-specific provisions may apply. Verify the actual formulation, package, and current transport regulations before commercial shipment.

SECTION 15. REGULATORY INFORMATION

OSHA Hazard Communication	Hazardous chemical under 29 CFR 1910.1200 based on the classification in Section 2.
CERCLA	No component with a reportable quantity is known to be present based on available reference data.
SARA 302/304	No extremely hazardous substance with an applicable threshold planning or reportable quantity is known to be present.
SARA 311/312	Acute toxicity; skin corrosion or irritation; serious eye damage or eye irritation.
SARA 313	No listed toxic chemical is known to exceed the reporting threshold based on available reference data.
TSCA	Ingredients are expected to be listed on, or exempt from, the TSCA Chemical Substance Inventory. Verify before final release.
California Proposition 65	No listed chemical is known to be present based on the information supplied. Verify against the current list before final release.

SECTION 16. OTHER INFORMATION

Revision date	07/18/2026
Version	2.0
Prepared by	GM Biosciences, Inc.
Reference basis	Analogous manufacturer SDSs for aqueous guanidinium thiocyanate mixtures, supplier safety information for guanidinium thiocyanate, and OSHA Hazard Communication mixture-classification criteria.
Classification note	The classification and statements are based on information supplied by the product developer, the maximum disclosed concentration range, and analogous reference SDSs. No independent physical, toxicological, ecological, or transport testing of the finished mixture was provided.

Abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists; DOT: U.S. Department of Transportation; GHS: Globally Harmonized System; IARC: International Agency for Research on Cancer; IATA: International Air Transport Association; IMDG: International Maritime Dangerous Goods; NTP: National Toxicology Program; OSHA: Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; SARA: Superfund Amendments and Reauthorization Act; SDS: Safety Data Sheet; STOT: Specific Target Organ Toxicity; TSCA: Toxic Substances Control Act; TLV: Threshold Limit Value.
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SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Product name	Beads 9
Kit / Catalog number	DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum) / GM2016
Version / Revision date	Version 2.0 / 07/18/2026

SECTION 1. IDENTIFICATION

Product identifier	Beads 9
Other means of identification	Component of DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum), Cat. No. GM2016
Recommended use	Laboratory reagent used in isolation and purification of cell-free total nucleic acids from plasma or serum.
Restrictions on use	For research use only. Not for use in diagnostic procedures.
Manufacturer / responsible party	GM Biosciences, Inc.
U.S. address	5350 Partners Ct., Suite C, Frederick, MD 21703, USA
Telephone	240-595-9177
Email	support@gmbiosciences.com
Emergency telephone	240-595-9177 (normal business hours: 10:00 AM-5:00 PM Eastern Time)

SECTION 2. HAZARD(S) IDENTIFICATION

No GHS
pictogram**Not classified as a hazardous substance or mixture under the OSHA Hazard Communication Standard based on the information supplied.**

No signal word, hazard statement, or mandatory precautionary statement is required.

Other hazards	Standard laboratory precautions should be observed.
Hazards not otherwise classified	No applicable information available.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration (% w/w)	Notes
No hazardous ingredients required to be disclosed.	Not applicable	Not applicable	Mixture.

Note: Concentration is expressed as weight percent unless otherwise stated.

SECTION 4. FIRST-AID MEASURES

General advice	No special measures are expected to be required. Show this SDS to medical personnel if medical advice is sought.
Inhalation	Move to fresh air if discomfort occurs. Seek medical advice if symptoms persist.
Skin contact	Rinse with water. Remove contaminated clothing. Seek medical advice if irritation occurs.

Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical advice if irritation persists.
Ingestion	Rinse mouth. Do not induce vomiting. Seek medical advice if the person feels unwell.
Most important symptoms/effects	No significant acute or delayed effects are known under normal conditions of use.
Immediate medical attention	Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Water spray, foam, dry chemical, or carbon dioxide. Use measures appropriate to the surrounding fire.
Unsuitable extinguishing media	No specific limitation known.
Specific hazards	The product is not expected to be flammable. Heating may generate irritating fumes from container or minor organic constituents.
Firefighter protection	Use standard protective equipment and self-contained breathing apparatus when required by the surrounding fire.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Use normal laboratory PPE. Avoid splashes and unnecessary contact.
Environmental precautions	No special environmental precautions are expected to be necessary; avoid uncontrolled release.
Containment and cleanup	Absorb liquid with inert material and place in a suitable container. For bead suspensions, collect the suspension without allowing it to dry and disperse. Clean the area with water.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling	Follow good laboratory practice. Avoid contact with eyes and skin. Do not eat, drink, or smoke while handling.
Conditions for safe storage	Store at 4 °C. Do not freeze. Keep container tightly closed and properly labeled.
Specific end use	Laboratory reagent for recovery and purification of short nucleic acids from lysate-compatible flow-through samples. For research use only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits	Contains no substances with established occupational exposure limits based on the information supplied.
Engineering controls	General laboratory ventilation is adequate under normal conditions of use.
Eye/face protection	Safety glasses are recommended.
Hand protection	Laboratory gloves are recommended.
Skin/body protection	Laboratory coat or other suitable work clothing.
Respiratory protection	Not normally required.
Hygiene measures	Wash hands after handling and before breaks.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid magnetic bead suspension
Color	Brown to dark brown

Odor	Odorless
Odor threshold	No data available.
Melting point/freezing point	No data available.
Initial boiling point/range	No data available.
Flammability	Not expected to be flammable under normal conditions of use.
Lower/upper explosion or flammability limits	No data available.
Flash point	Not applicable or no data available for the aqueous formulation.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
pH	No data available.
Kinematic viscosity	No data available.
Solubility	Magnetic particles are dispersible in the aqueous carrier; the particles are not soluble.
Partition coefficient (n-octanol/water)	No data available.
Vapor pressure	No data available.
Relative vapor density	No data available.
Relative density	No data available.
Evaporation rate	No data available.
Particle characteristics	Magnetic particles dispersed in an aqueous liquid; particle size data not available.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	No specific reactivity hazard is known.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No dangerous reaction is expected under normal use.
Conditions to avoid	Extreme temperatures and contamination.
Incompatible materials	Strong oxidizing agents; strong acids and bases may be incompatible with some formulation components.
Hazardous decomposition products	No hazardous decomposition products are expected under normal storage and use.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely routes of exposure	Eye contact, skin contact, ingestion, or inhalation of aerosol.
Acute toxicity	Not classified based on available information.
Skin corrosion/irritation	Not classified; transient irritation is possible in susceptible individuals.
Serious eye damage/irritation	Not classified; direct contact may cause temporary discomfort.
Respiratory/skin sensitization	Not classified based on available information.
Germ cell mutagenicity	No data available; not classified.
Carcinogenicity	No ingredient at $\geq 0.1\%$ is known to be listed as a carcinogen by IARC, NTP, or OSHA based on the information supplied.
Reproductive toxicity	No data available; not classified.

STOT - single/repeated exposure	No data available; not classified.
Aspiration hazard	Not classified.
Symptoms	No significant symptoms are expected under normal conditions of use.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity	No product-specific data available.
Persistence and degradability	No data available.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No data available. Avoid uncontrolled release to the environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods	Dispose of contents and container in accordance with federal, state, and local requirements. Small laboratory quantities may be handled according to institutional procedures.
Contaminated packaging	Dispose of as unused product unless adequately cleaned. Do not reuse empty containers for other purposes.

SECTION 14. TRANSPORT INFORMATION

DOT (49 CFR)	Not regulated as a dangerous good.
IATA-DGR	Not regulated as a dangerous good.
IMDG Code	Not regulated as a dangerous good.
Special precautions	Keep containers tightly closed and protected from damage. Final transport classification must be verified before commercial shipment.

SECTION 15. REGULATORY INFORMATION

OSHA Hazard Communication	Not classified as hazardous under 29 CFR 1910.1200 based on the information supplied.
CERCLA	No reportable component is known to be present.
SARA 302/304	No listed extremely hazardous substance is known to be present.
SARA 311/312	No SARA hazard category is expected to apply.
SARA 313	No listed toxic chemical is known to exceed a reporting threshold.
TSCA	Ingredients are expected to be listed on, or exempt from, the TSCA Chemical Substance Inventory. Verify before final release.
California Proposition 65	No listed chemical is known to be present based on the information supplied. Verify against the current list before final release.

SECTION 16. OTHER INFORMATION

Revision date	07/18/2026
Version	2.0
Prepared by	GM Biosciences, Inc.

Reference basis	Analogous nonhazardous buffer or magnetic-bead SDSs supplied by the product developer.
Classification note	The classification and statements are based on information supplied by the product developer, maximum disclosed concentrations, and analogous reference SDSs. No independent physical, toxicological, or transport testing of the finished mixture was provided.
Abbreviations	ACGIH: American Conference of Governmental Industrial Hygienists; DOT: U.S. Department of Transportation; GHS: Globally Harmonized System; IARC: International Agency for Research on Cancer; IATA: International Air Transport Association; IMDG: International Maritime Dangerous Goods; NTP: National Toxicology Program; OSHA: Occupational Safety and Health Administration; PEL: Permissible Exposure Limit; SARA: Superfund Amendments and Reauthorization Act; SDS: Safety Data Sheet; STOT: Specific Target Organ Toxicity; TSCA: Toxic Substances Control Act; TLV: Threshold Limit Value.

Disclaimer: The information provided in this Safety Data Sheet is believed to be accurate and represents the best information currently available to GM Biosciences, Inc. as of the revision date. The information is intended solely as guidance for the safe handling, use, processing, storage, transportation, disposal, and release of the designated product and is not to be considered a warranty or quality specification. The information relates only to the specific material identified and may not be valid when the material is used in combination with other materials or in any process unless specifically stated. GM Biosciences, Inc. assumes no responsibility for damage, injury, or loss resulting from improper handling, use contrary to recommended procedures, or failure to comply with applicable laws and regulations. Users are responsible for determining the suitability of this information for their particular purposes and for obtaining qualified regulatory review before commercial distribution.

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Product name	Elution Buffer
Kit / Catalog number	DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum) / GM2016
Version / Revision date	Version 2.0 / 07/18/2026

SECTION 1. IDENTIFICATION

Product identifier	Elution Buffer
Other means of identification	Component of DeepCatch™ Cell-Free Total Nucleic Acids Isolation Kit (Plasma/Serum), Cat. No. GM2016
Recommended use	Laboratory reagent used in isolation and purification of cell-free total nucleic acids from plasma or serum.
Restrictions on use	For research use only. Not for use in diagnostic procedures.
Manufacturer / responsible party	GM Biosciences, Inc.
U.S. address	5350 Partners Ct., Suite C, Frederick, MD 21703, USA
Telephone	240-595-9177
Email	support@gmbiosciences.com
Emergency telephone	240-595-9177 (normal business hours: 10:00 AM-5:00 PM Eastern Time)

SECTION 2. HAZARD(S) IDENTIFICATION

No GHS
pictogram**Not classified as a hazardous substance or mixture under the OSHA Hazard Communication Standard based on the information supplied.**

No signal word, hazard statement, or mandatory precautionary statement is required.

Other hazards	Standard laboratory precautions should be observed.
Hazards not otherwise classified	No applicable information available.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Concentration (% w/w)	Notes
No hazardous ingredients required to be disclosed.	Not applicable	Not applicable	Mixture.

Note: Concentration is expressed as weight percent unless otherwise stated.

SECTION 4. FIRST-AID MEASURES

General advice	No special measures are expected to be required. Show this SDS to medical personnel if medical advice is sought.
Inhalation	Move to fresh air if discomfort occurs. Seek medical advice if symptoms persist.
Skin contact	Rinse with water. Remove contaminated clothing. Seek medical advice if irritation occurs.

Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical advice if irritation persists.
Ingestion	Rinse mouth. Do not induce vomiting. Seek medical advice if the person feels unwell.
Most important symptoms/effects	No significant acute or delayed effects are known under normal conditions of use.
Immediate medical attention	Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	Water spray, foam, dry chemical, or carbon dioxide. Use measures appropriate to the surrounding fire.
Unsuitable extinguishing media	No specific limitation known.
Specific hazards	The product is not expected to be flammable. Heating may generate irritating fumes from container or minor organic constituents.
Firefighter protection	Use standard protective equipment and self-contained breathing apparatus when required by the surrounding fire.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Use normal laboratory PPE. Avoid splashes and unnecessary contact.
Environmental precautions	No special environmental precautions are expected to be necessary; avoid uncontrolled release.
Containment and cleanup	Absorb with inert material and place in a suitable container. Clean the area with water.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling	Follow good laboratory practice. Avoid contact with eyes and skin. Do not eat, drink, or smoke while handling.
Conditions for safe storage	Store at room temperature. Keep container tightly closed and properly labeled.
Specific end use	Laboratory reagent for recovery and purification of short nucleic acids from lysate-compatible flow-through samples. For research use only.

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Occupational exposure limits	Contains no substances with established occupational exposure limits based on the information supplied.
Engineering controls	General laboratory ventilation is adequate under normal conditions of use.
Eye/face protection	Safety glasses are recommended.
Hand protection	Laboratory gloves are recommended.
Skin/body protection	Laboratory coat or other suitable work clothing.
Respiratory protection	Not normally required.
Hygiene measures	Wash hands after handling and before breaks.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid
Color	Colorless
Odor	Odorless

Odor threshold	No data available.
Melting point/freezing point	No data available.
Initial boiling point/range	No data available.
Flammability	Not expected to be flammable under normal conditions of use.
Lower/upper explosion or flammability limits	No data available.
Flash point	Not applicable or no data available for the aqueous formulation.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
pH	No data available.
Kinematic viscosity	No data available.
Solubility	Miscible in water.
Partition coefficient (n-octanol/water)	No data available.
Vapor pressure	No data available.
Relative vapor density	No data available.
Relative density	No data available.
Evaporation rate	No data available.
Particle characteristics	Not applicable to the liquid mixture.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	No specific reactivity hazard is known.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No dangerous reaction is expected under normal use.
Conditions to avoid	Extreme temperatures and contamination.
Incompatible materials	Strong oxidizing agents; strong acids and bases may be incompatible with some formulation components.
Hazardous decomposition products	No hazardous decomposition products are expected under normal storage and use.

SECTION 11. TOXICOLOGICAL INFORMATION

Likely routes of exposure	Eye contact, skin contact, ingestion, or inhalation of aerosol.
Acute toxicity	Not classified based on available information.
Skin corrosion/irritation	Not classified; transient irritation is possible in susceptible individuals.
Serious eye damage/irritation	Not classified; direct contact may cause temporary discomfort.
Respiratory/skin sensitization	Not classified based on available information.
Germ cell mutagenicity	No data available; not classified.
Carcinogenicity	No ingredient at $\geq 0.1\%$ is known to be listed as a carcinogen by IARC, NTP, or OSHA based on the information supplied.
Reproductive toxicity	No data available; not classified.
STOT - single/repeated exposure	No data available; not classified.

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Aspiration hazard	Not classified.
Symptoms	No significant symptoms are expected under normal conditions of use.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity	No product-specific data available.
Persistence and degradability	No data available.
Bioaccumulative potential	No data available.
Mobility in soil	No data available.
Other adverse effects	No data available. Avoid uncontrolled release to the environment.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods	Dispose of contents and container in accordance with federal, state, and local requirements. Small laboratory quantities may be handled according to institutional procedures.
Contaminated packaging	Dispose of as unused product unless adequately cleaned. Do not reuse empty containers for other purposes.

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