SAFETY DATA SHEET

Issuing Date: July 1, 2021
Version Date: July 1, 2021
Version Number: 1.0

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT IDENTIFIER

Product Name	HerediSeq™ for Cancer Duplex Buffer
Product Number	311487

RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS ON USE

Recommended Use	Reagent

DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

Supplier	Blackhawk Genomics 2872 Ygnacio Valley Road Suite 226 Walnut Creek, CA 94598
Manufacturer	Blackhawk Genomics 2872 Ygnacio Valley Road Suite 226 Walnut Creek, CA 94598

EMERGENCY TELEPHONE NUMBER

Emergency telephone	ChemTrec 800-424-9300

2. HAZARDS IDENTIFICATION

CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

Hazard Statement	H335	May cause respiratory irritation.
Precautionary Statements	P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
	P271	Use only outdoors or in a well-ventilated area.
	P403	Store in a well-ventilated place. Keep container tightly closed.
	P405	Store locked up.
	P501	Dispose of contents/container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCES	CAS #	PERCENT	HAZARDOUS CLASSIFICATION
Water	7732-18-5	5-100%	Non-hazardous
HEPES	7365-45-9	0-5%	Resp Irrit 3

4. FIRST-AID MEASURES

DESCRIPTION OF FIRST-AID MEASURES

General Information	If in doubt, get medical attention promptly. Show this Safety Data Sheet to the medical personnel.
Inhalation	Remove from exposure area to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Ingestion	Call a physician. Do not induce vomiting.
Skin Contact	Remove contaminated clothing. Wash exposed area with soap and water. If irritation persists, seek medical attention.
Eye Contact	Wash eyes with plenty of water for at least 15 minutes, lifting lids occasionally. Seek medical aid.
Injection	If accidentally injected, get medical attention.
Protection of first-aiders	First-aid personnel should wear appropriate protective equipment during any rescue.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

General Information	The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	
Short Term Exposure	May be toxic if inhaled. Corrosive to mucus membranes.
Long Term Exposure	No information available.
Ingestion	
Short Term Exposure	Toxic if swallowed. Corrosive to mucus membranes.
Long Term Exposure	No information available.
Skin Contact	
Short Term Exposure	May be harmful if absorbed through skin – Causes chemical burns.
Long Term Exposure	No information available.
Eye Contact	
Short Term Exposure	Corrosive to mucus membranes.
Long Term Exposure	No information available.
Injection	

Short Term Exposure	No information available.
Long Term Exposure	No information available.

INDICATION OF IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED

Notes for the Doctor	There is no specific antidote. Treat symptomatically and supportively.
Specific Treatments	No special treatment required.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA

Suitable Extinguishing Media	For small fires, use dry chemical, foam, or carbon dioxide. Water may not be effective but may be used to keep containers exposed to fires cool. Wear self-contained breathing apparatus and protective suit.
Unsuitable Extinguishing Media	Do not use water jet as an extinguisher as this will spread the fire.

SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE

Specific hazards	None known.
Hazardous Combustion Products	Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

ADVICE FOR FIREFIGHTERS

Protections Actions During Firefighting	Avoid breathing fire gases or vapors. Evacuate area. Cool containers exposed to heat with water spray and remove them from the fire are if it can be done without risk. Cool containers exposed to flames with water until well after the fire is out. If a leak or spill has not ignited, use water spray to disperse vapors and protect men stopping the leak.
Special Protective Equipment For Firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing. Standard Firefighter's clothing including helmets, protective boots and gloves will provide a basic level of protection for chemical incidents.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT, AND EMERGENCY PROCEDURES

Personal Precautions	Wear protective clothing as described in Section 8 of this safety data sheet. No action shall be taken without appropriate training or involving any personal risk. Do not touch or walk into spilled material.

ENVIRONMENTAL PRECAUTIONS

Environmental Precautions	Avoid discharge into drains or watercourses or onto the ground.

METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP

Methods for Cleaning Up	Absorb spill with inert material, then place in a chemical waste container. Dispose of in a manner consistent with federal and local laws.
Reportable Quantity (RQ)	Ventilate the area. Wear appropriate protective clothing and chemically compatible gloves. Absorb with appropriate sorbent material and place spillage in appropriate container for disposal according to local regulations. Do not use combustible materials as a sorbent. Report spills to the environment of any spill materials that reach the RQ.
Reference to Other Sections	For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Usage Precautions	Read and follow manufacturer's recommendations. Wear protective clothing as described in Section 8 of this safety data sheet. Keep away from food, drink, and animal feeding stuffs.
Advice on General Occupational Hygiene	Wash promptly if skin becomes contaminated. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse.

CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES

Storage Precautions	Store away from incompatible materials (see Section 10). Keep only in the original container. Keep container tightly closed, in a cool, well-ventilated place. Keep containers upright. Protect containers from damage.
Storage Class	Unspecified storage.

SPECIFIC END USE(S)

Specific End Use(s)	The identified uses for this product are detailed in Section 1.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE CONTROLS

Appropriate Engineering Controls	Use in a laboratory hood or other ventilated device. Use prudent laboratory practices for handling chemicals.
Eye/Face Protection	Wear eye protection.
Hand Protection	Wear protective gloves.
Other Skin and Body Protection	Wear appropriate clothing to prevent repeated or prolonged skin contact.
Hygiene Measures	Wash after use and before eating, smoking, and using the toilet. Do not eat, drink, or smoke when using this product.

Respiratory Protection	Respiratory protection is not required. When protection from nuisance levels is required, ensure all respiratory protective equipment is suitable for its intended use and is NIOSH-approved. Check that the respirator fits tightly, and the filter is changed regularly. Gas and combination filter cartridges should comply with OSHA 1910.134. Full face mask respirators with replaceable filter cartridges should comply with OSHA 1910.134. Half mask and quarter mask respirators with replaceable filter cartridges should comply with OSHA 1910.134.
Environmental Exposure Controls	Keep container tightly sealed when not in use.

9. PHYSICAL AND CHEMICAL PROPERTIES

INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid.
Appearance	Colorless liquid.
Odor	Odorless.
Odor Threshold	Not available.
pH	7-9.
Melting Point	Not available.
Initial Boiling Point and Range	Not available.
Flash Point	Not available.
Evaporation Rate	Not available.
Evaporation Factor	Not available.
Flammability (Solid, Gas)	Not available.
Upper/Lower Flammability or Explosive Limits	Not available.
Other Flammability	Not available.
Vapor Pressure	Not available.
Vapor Density	Not available.
Relative Density	Not available.
Bulk Density	Not available.
Solubility(ies)	Not available.

Partition Coefficient	Not available.
Auto-Ignition Temperature	Not available.
Decomposition Temperature	Not available.
Viscosity	Not available.
Explosive Properties	Not available.
Explosive Under the Influence of a Flame	Not considered to be explosive.
Oxidizing Properties	Not available.

10. STABILITY AND REACTIVITY

Reactivity	Stable under recommended storage conditions.
Stability	Stable at normal ambient temperatures and when used as recommended. Stable under the prescribed storage conditions.
Conditions to Avoid	Avoid contact with heat, sparks, flames, or other sources of ignition.
Materials to Avoid	Strong oxidizing agents, strong acids, strong bases, metals.
Polymerization	Not applicable.
Hazardous Decomposition Products	Does not decompose when used and stored as recommended. Thermal decomposition or combustion products may include the following substances: Harmful gases or vapors.

11. TOXICOLOGICAL INFORMATION

INFORMATION ON TOXICOLOGICAL EFFECTS

Acute Toxicity – Oral Notes (Oral LD_{50})	Not tested.
Acute Toxicity – Dermal Notes (Dermal LD_{50})	Not tested.
Acute Toxicity – Inhalation Notes (Inhalation LC_{50})	Not tested.
Genotoxicity – in vitro	No information available.
Carcinogenicity	No information available.
IARC Carcinogenicity	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.

ACGIH Carcinogenicity	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by ACGIH.
NTP Carcinogenicity	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by NTP.
OSHA Carcinogenicity	No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by OSHA.
Local Effects	No information available.
Target Effects	No information available.

12. ECOLOGICAL INFORMATION

Ecotoxicity	Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.
Toxicity	Based on available data, the classification criteria are not met.
Acute Aquatic Toxicity	Not tested.
Persistence and Degradability	The degradability of the product is not known.
Bio-Accumulative Potential	No data available on bio-accumulation.
Partition Coefficient	Not available.
Mobility in Soil	No data available.
Other Adverse Effects	None known.

13. DISPOSAL CONSIDERATIONS

WASTE TREATMENT METHODS

General Information	Observe all federal, state, and local regulations. The generation of waste should be minimized or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. When handling waste, the safety precautions applying to handling of the product should be considered. Care should be taken when handling emptied containers that have not been thoroughly cleaned or rinsed out. Empty containers or liners may retain some product residues and hence be potentially hazardous.
Disposal Methods	Do not empty into drains.

14. TRANSPORT INFORMATION

General	The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, DOT).

UN NUMBER	
UN No. (International)	Not applicable.
UN No. (DOT)	Not applicable.
UN No. (IATA)	Not applicable.
UN PROPER SHIPPING NAME	
Proper Shipping Name (International)	Not applicable.
Proper Shipping Name (DOT)	Not applicable.
Proper Shipping Name (IATA)	Not applicable.
TRANSPORT HAZARD CLASS(ES)	
Transport Labels (International)	No transport warning sign required.
IATA Hazard Class	Not applicable.
DOT Transport Labels	No transport warning sign required.
PACKING GROUP	
Packing Group (International)	Not applicable.
DOT Packing Group	Not applicable.
IATA Packing Group	Not applicable.
ENVIRONMENTAL HAZARDS	
Environmentally Hazardous Substance	No.
Special Precautions for User	Not applicable.
DOT Reportable Quantity	Not applicable.
DOT TIH Zone	Not applicable.
Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS

SARA Section 302 Extremely Hazardous Substances Tier II Threshold Planning Quantities
None of the ingredients are listed or exempt.

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

SARA (311/312) Hazard Categories
Acute Health Hazard (HEPES)

US STATE REGULATIONS

New Jersey "Right to Know" List

Chemical	CAS #
HEPES	7365-45-9

Pennsylvania "Right to Know" List

Chemical	CAS #
HEPES	7365-45-9

16. OTHER INFORMATION

Abbreviations and Acronyms Used in the Safety Data Sheet	TDG: The transport of dangerous goods act IATA: International air transport association ICAO: Technical instructions for the safe transport of dangerous goods by air IMDG: International maritime dangerous goods CAS: Chemical abstracts service ATE: Acute toxicity estimate LC_{50}: Lethal concentration to 50% of a test population LD_{50}: Lethal dose to 50% of a test population (medial lethal dose)
Training Advice	Only trained personnel should use this material.
Version Date	July 1, 2021
Version	1.0

Disclaimer
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END SAFETY DATA SHEET