SAFETY DATA SHEET

IrysPrep® 5x Wash Buffer

1 CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name:	IrysPrep® 5x Wash Buffer	Manufacturer:	BioNano Genomics
Description:	Laboratory Reagent	Address:	9640 Towne Centre Drive, Ste. 100
Product Number:	20256		San Diego, CA 92121
SDS Issued:	8/24/16	Telephone:	(858) 888-7600

2 HAZARDS IDENTIFICATION

Hazard Class/Category: This product is not classified as a hazardous material under Globally Harmonized System (GHS) classification schemes (29 CFR 1910, 1200 Appendix A and Appendix B; United Nations Globally Harmonized System of Classification and Labelling, Sixth Edition, Chapters 2 and 3).

Label Elements:

Hazard Pictograms: Not applicable.
Signal Word: Not applicable.
Hazard Statements: Not applicable.
Precautionary Statements.

* Prevention – None specified. See sections 7 and 8 for details.
* Response – None specified. See sections 4, 5 and 6 for details.
* Storage – None specified. See section 7 for details.
* Disposal – None specified. See section 13 for details.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Component:	CAS No.:	Percent Composition:
Tris (hydroxymethyl) aminomethane	77-86-1	[Proprietary[1]]
Ethylenediaminetetraacetic acid	6381-92-6	[Proprietary]

4 FIRST AID MEASURES

Eye Contact: Immediately flush with large quantities of water for at least fifteen minutes.
Skin Contact: Wash off with soap and plenty of water. May be harmful if absorbed through skin.
Ingestion: Wash out mouth with water if person is conscious. Do not give anything by mouth if victim is unconscious. May be harmful if swallowed.
Inhalation: Move victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. May be harmful if inhaled. Causes respiratory tract irritation. Consult a physician.

Most Important Symptoms and Effects/Acute and Delayed: Skin or eye contact may cause irritation, especially after prolonged contact.

Indication of Immediate Medical Attention/Special Treatment: In case of accident, or if you feel unwell, seek medical advice immediately. Take this document and a copy of the label to the healthcare professional. Physicians should treat exposures symptomatically.

[1] The exact percentage of composition has been withheld as a trade secret. All relevant physical and health hazards have been declared, in accordance with regulatory requirements.

5 FIRE FIGHTING MEASURES

Extinguishing Media:	Use water spray, alcohol resistant foam, dry chemical or carbon dioxide.
Special Firefighting Procedures:	Wear self-contained breathing apparatus and protective clothing. Avoid direct contact with runoff from fire fighting.
Unusual Fire & Explosion Hazards:	Combustion products include carbon dioxide, carbon monoxide, and compounds of sodium and nitrogen.

6 ACCIDENTAL RELEASE MEASURES

Personal precaution:	Avoid generating splashes/sprays mist. Ensure adequate ventilation. Evacuate person to safe areas.
Environmental precautions:	Do not let product enter drains.

Methods for cleaning up: Personnel who have received basic chemical safety training can generally handle small-scale releases. Gloves, lab coat, and safety glasses must be worn when cleaning-up spills. Use caution during clean-up; contaminated floors and items may be slippery. Wipe-up spilled material with polypad or other absorbent material. Place clean-up materials in appropriate waste container for proper disposal.

7 HANDLING AND STORAGE

Handling: Follow good chemical hygiene practices. Do not smoke, drink, eat, or apply cosmetics in the chemical use area. Avoid inhalation of vapors, mists and sprays. Use in well-ventilated area. Avoid contact with skin or eyes. Remove contaminated clothing promptly. Clean up spilled product immediately. Employees must be appropriately trained to use this product safely as needed. Keep containers closed when not in use.

Storage: Store containers away from direct sunlight, sources of intense heat, or where freezing is possible. Store this product away from incompatible chemicals. Inspect all incoming containers before storage, to ensure containers are properly labeled and not damaged. Empty containers may contain residual liquid; therefore, empty containers should be handled with care.

Incompatibilities: See Section 10 (Stability and Reactivity).

8 EXPOSURE CONTROLS, PERSONAL PROTECTION

Eye Protection:	Safety glasses or goggles.
Hand Protection:	Latex, nitrile or vinyl gloves.
Respiratory Protection:	None, if used according to directions. If concerned use respiratory mask.
Ventilation:	Use in a well-ventilated laboratory.
Other Protective Equipment:	Lab coat or apron. Safety shower and eye wash facilities should be made available in laboratory.

Exposure Limits: The following airborne exposure limits are applicable to components of this product.

Component	ACGIH	OSHA	OTHER
Tris-hydroxymethyl) aminomethane	N/A	N/A	N/A
Ethylenediaminetetraacetic acid	N/A	N/A	N/A

9 PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Liquid.
Odor:	Odorless.
Odor Threshold:	Not determined.
pH:	Not determined.
Melting Point/Freezing Point:	Approx. 0°C (32 °F).
Initial Boiling Point/Boiling Range:	> 99°C (210 °F).
Flash Point:	Not applicable.
Evaporation Rate (Water = 1):	Approx. 1.0.
Flammability:	Not applicable.
Upper/Lower Explosive Limits:	Not applicable.
Vapor Pressure:	Not determined.
Vapor Density:	Not determined.
Relative Density (Density):	Approximately 1.0 (8.34 lb/gal)
Solubility:	Completely soluble in water.
Partition Coefficient/n-octanol/water:	Not determined.
Autoignition Temperature:	Not applicable.
Decomposition Temperature:	Not determined.
Viscosity:	Not determined.

10 STABILITY AND REACTIVITY

Incompatibility:	Water-reactive materials.
Stability:	Stable.
Hazardous Polymerization:	Not applicable.
Conditions to Avoid:	Adverse storage conditions and incompatible materials.
Hazardous Decomposition Products:	Products of thermal decomposition include oxides of carbon, nitrogen, sodium, chloride.

11 TOXICOLOGICAL INFORMATION

Component Toxicity Data:
Tris (hydroxymethyl) aminomethane: LD50 Oral-rat-> 3,000 mg/kg.
Ethylenediaminetetraacetic acid: LD50 Oral-rat-> 2,000 mg/kg.
To the best of our knowledge, the chemical, physical, and toxicological properties of this product have not been thoroughly investigated.

Product Toxicity Data:
The following are calculated estimates for the product:
Acute Toxicity Estimate (Oral) > 5000 mg/kg
Acute Toxicity Estimate (Dermal) > 5000 mg/kg
Acute Toxicity Estimate (Inhalation) > 20 mg/L

Degree of Irritation: The product is not anticipated to cause significant eye irritation or skin irritation. Mild irritation may occur in sensitive individuals or prolonged exposure.
Sensitization: This product does not contain any compound reported to be either a skin or respiratory sensitizer.
Review of Acute Symptoms: See Section 2 (Hazards Information) and Section 4 (First-Aid Measures) for additional details.
Carcinogenicity Status: No component of this product is listed as a carcinogen according to the NTP (National Toxicology Program), IARC (International Agency for Research on Cancer), or OSHA (US Occupational Safety and Health Administration).
Reproductive Toxicity Information: The components of this product are not reported to cause reproductive effects under typical circumstances of exposure.
Mutagenic Effects: The components of this product are not reported to cause mutagenic effects under typical circumstances of exposure.
Specific Target Organ Toxicity - Single Exposure: Not applicable.
Specific Target Organ Toxicity – Repeated Exposure: Not applicable.
Aspiration Hazard: Not applicable.
Toxicologically Synergistic Products: None known.
Additional Toxicology Information: Not applicable.

12 ECOLOGICAL INFORMATION

Ecotoxicity: Based on available data, this product is not anticipated to be harmful to contaminated terrestrial or aquatic lifeforms

Persistence and Degradability: When released into the soil, the components of this product are expected to biodegrade, dissipate in soils via oxidation, or otherwise chemically degrade or photo-decompose via solar radiation.

Bioaccumulation Potential: The components of this product are not anticipated to bioaccumulate in any significant quantities.

Mobility in Soil: This product will have mobility in soil.

13 DISPOSAL CONSIDERATIONS

Prepare, transport, treat, store, and dispose of waste product according to all applicable local, U.S. State and U.S. Federal regulations, the applicable Canadian standards, or other appropriate national standards.

14 TRANSPORTATION INFORMATION

Hazardous Materials Transportation Information: This material is not hazardous for shipment, per the Department of Transportation Hazardous Materials Regulations or International Air Transport Association/International Maritime Organization Dangerous Goods Codes. Please contact the manufacturer if there are questions pertinent to the shipment of this product.

Environmental Hazards: None described, as related to transportation.

Special Precautions for Users: Not applicable.

15 REGULATORY INFORMATION

U.S. Environmental Health and Safety Regulations:

* U.S. SARA HAZARD CATEGORIES (SECTION 311/312):	ACUTE: No; CHRONIC: No; FIRE: No; REACTIVE: No; SUDDEN RELEASE: No.
* U.S. CERCLA REPORTABLE QUANTITY (RQ):	Not applicable.
* U.S. SARA SECTION 313:	Not applicable.
* U.S. TSCA INVENTORY STATUS:	All components of this product are listed on the TSCA Inventory.
* U.S. CLEAN AIR ACT (Section 112r):	Not applicable.

* CALIFORNIA SAFE DRINKING WATER ACT (PROPOSITION 65) STATUS: Not applicable.

International Regulations:
* CANADIAN Regulatory Status: The product is not classified as hazardous under Hazardous Products Regulations (SOR-2015-17).
* WHMIS 2015: See section 2. This SDS contains all the information required by the CPR.
* CANADIAN DSL/NDSL INVENTORY STATUS: The listed components of this product are on the DSL/NDSL Inventory.
* CANADIAN ENVIRONMENTAL PROTECTION ACT (CEPA) PRIORITY SUBSTANCES LISTS: The components of this product are not on the CEPA Priority Substances Lists.
* EUROPEAN INFORMATION: Caution: Substance not yet fully tested.

16 OTHER INFORMATION

Limitations: The information and recommendations set forth in this SDS are believed to be correct as of this date. BioNano Genomics makes no warranty with respect to the content of this SDS and disclaims all liability from reliance thereon.

Documentation:
Change Indicated: Prepared per OSHA Hazard Communication Standard (29 CFR 1910.1200).
Date of Publication: June 21, 2016
Supersedes: Not applicable.

References for Development:
* SAFETY DATA SHEETS FOR COMPONENT PRODUCTS.
* RTECS – Registry of Effects of Toxic Chemicals
* ECHA: European Chemical Hazards Agency http://echa.europa.eu/en/information-on-chemicals/
* TOXNET: http://toxnet.nlm.nih.gov/