ULTIMA GENOMICS

Safety Data Sheet

Enzyme Dilution Buffer

SECTION 1: Identification

1.1. Product identifier

Product name: Enzyme Dilution Buffer
Part number: R0000672

1.2. Other means of identification

Not applicable.

1.3. Recommended use of the chemical and restrictions on use

Reagent

1.4. Supplier's details

Name	Ultima Genomics, Inc. 4209 Technology Drive., Fremont, CA 94538 USA
Telephone	+1-510-330-5110
Email	SDS@ultimagen.com

1.5. Emergency phone number(s)

Telephone	PERS 24 Hour Emergency Phone Numbers (USA) 1-800-633-8253 1-801-629-0667

SECTION 2: Hazard Identification

2.1 Classification of the substance or mixture

GHS classification in accordance with: (US) OSHA (CFR 1910.1200)

Skin corrosion/irritation	Category 2
Serious eye damage/Eye irritation	Category 2

2.2 GHS label elements, including precautionary statements

Pictogram



Signal word **Warning**

Hazard statement(s)

H315	Causes skin irritation
H320	Causes eye irritation
H335	May cause respiratory irritation

Precautionary statement(s)

P264	Wash hands and exposed thoroughly after handling
P280	Wear protective gloves.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do so. Continue rinsing.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.

2.3 Hazards not otherwise classified (HNOC)
None identified.

SECTION 3: Composition/Information on Ingredients

3.1 Substance / Mixture
Mixture

Hazardous components*

Component	CAS No.	Concentration
2,3-Butanediol, 1,4-dimercapto-, (R*,R*)-	3483-12-3	1.0 – 5.0 mM

Trade secret statement (OSHA 1910.1200(i))
*The specific chemical identities and/or actual concentrations for one or more listed components are being withheld as trade secrets under the US regulation 29 CFR 1910.1200(i).

SECTION 4: First-Aid Measures

4.1 Description of necessary first-aid measures

If inhaled	Remove to fresh air and promote deep breathing. Seek medical attention if effects persist.
In case of skin contact	Wash with plenty of soap and water for at least 15 minutes. Call a poison control center or doctor if irritation develops or persists. Take off contaminated clothing and wash it before reuse. Seek medical attention if irritation develops or persists.
In case of eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention if irritation persists.
If swallowed	Call a poison control center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms/effects, acute and delayed
The most important known symptoms and effects are described in the labelling (see Section 2) and/or in Section 11.

If inhaled	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur.
In case of skin contact	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.

In case of eye contact	Rinse immediately with plenty of water, also under eyelids for 15 minutes. Get medical attention.
In case of ingestion	Clean mouth with water and drink afterwards plenty of water.

4.3 Indication of immediate medical attention and special treatment needed, if necessary
No data available.

SECTION 5: Firefighting Measures

5.1 Suitable extinguishing media
Use extinguishing media appropriate for surrounding fire: Water spray, BC-powder, Carbon dioxide (CO2)

5.2 Specific hazards arising from the chemical
Hazardous combustion products: Carbon monoxide (CO), Carbon dioxide (CO2)

5.3 Special protective actions for fire-fighters
In case of fire and/or explosion, do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Further information
No data available.

SECTION 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear personal protection recommended in Section 8. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.

6.2 Environmental precautions
Do not let product enter drains without pre-treatment or adequate dilution.

6.3 Methods and materials for containment and cleaning up
Soak up with inert absorbent material. Pick up and keep in suitable, closed containers for disposal. Cover drains.

Reference to other sections
Hazardous combustion products: see Section 5
Personal protective equipment: see Section 8
Incompatible materials: see Section 10
Disposal considerations: see Section 13.

SECTION 7: Handling and Storage

7.1 Precautions for safe handling
Handle in accordance with good industrial hygiene and safety practices. Avoid contact with skin and eyes. Do not eat, drink, or smoke while handling. Wash hands with soap and water after handling.

7.2 Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry, cool, and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.

Specific end use(s)
Apart from the uses mentioned in Section 1, no other specific uses are stipulated.

SECTION 8: Exposure Controls/Personal Protection

8.1 Control parameters

Component	OSHA PEL	OSHA PEL (Ceiling)	ACGIH OEL (TWA)	ACGIH OEL (STEL)
2,3-Butanediol, 1,4-dimercapto-, (R*,R*)-	None	None	None	None

8.2 Engineering controls
Ensure adequate ventilation, especially in confined areas.

8.3 Exposure controls

Hand protection
Wear suitable gloves. Glove material: Compatible chemical-resistant gloves.

Eye protection
Tight sealing safety goggles.

Skin and body protection
Wear laboratory coat for body protection.

Respiratory protection
Provide good ventilation. If engineering controls and ventilation are not sufficient to control exposure to below the allowable limits then an appropriate NIOSH/MSHA approved air-purifying respirator with organic vapor/acid gas cartridge and particulate filter, or self-contained breathing apparatus must be used. Supplied air breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.

Hygiene measures
Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls
Do not let product enter drains.

SECTION 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Appearance/form (physical state, color, etc.)	Colorless liquid.
Odor	Stench.
Odor threshold	No data available.
pH	No data available.
Melting point/freezing point	No data available.
Initial boiling point and boiling range	No data available.
Flash point	No data available.
Evaporation rate	No data available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability limits	No data available.
Upper/lower explosive limits	No data available.
Vapor pressure	No data available.
Vapor density	No data available.
Relative density	No data available.
Solubility(ies)	No data available.
Partition coefficient: n-octanol/water	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Viscosity	No data available.

Explosive properties	Not explosive.
Oxidizing properties	Not oxidizing.

9.2 Other safety information
No data available.

SECTION 10: Stability and Reactivity

Reactivity
Non-reactive under normal use conditions.

Chemical stability
Stable under normal storage conditions.

Possibility of hazardous reactions
No data available.

Conditions to avoid
Keep away from incompatible materials.

Incompatible materials
Strong oxidizers, reducing agents, acids, bases.

Hazardous decomposition products
No data available.

SECTION 11: Toxicological Information

11.1 Information on toxicological effects

Acute Toxicity Estimate (ATE)			
Chemical Name	**Oral LD50**	**Dermal LD50**	**Inhalation LC50**
2,3-Butanediol, 1,4-dimercapto-, (R*,R*)-	400 mg/kg (Rat)	Not listed	Not listed

11.2 Principal routes of exposure
Eye contact. Skin contact. Inhalation.

Acute toxicity
Based on available data, classification data are not met.

Skin corrosion/irritation
Skin irritation.

Serious eye damage/irritation
Irritating to eyes.

Respiratory or skin sensitization
Based on available data, classification data are not met.

Germ cell mutagenicity
Based on available data, classification data are not met.

Carcinogenicity
Based on available data, classification data are not met.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP.
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
Based on available data, classification data are not met.

STOT-single exposure
Based on available data, classification data are not met.

STOT-repeated exposure
Based on available data, classification data are not met.

Aspiration hazard
Based on available data, classification data are not met.

SECTION 12: Ecological Information

Toxicity
No information available on product.

Persistence and degradability
No data available on product.

Bioaccumulative potential
No data available on product.

Mobility in soil
No data available on product.

Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

Other adverse effects
No ecological problems are to be expected when the product is handled and used with due care and attention.

SECTION 13: Disposal Considerations

Disposal of the product
Disposal should be in accordance with applicable Federal, State, and local laws and regulations. Local regulations may more stringent than State or Federal requirements.

Disposal of contaminated packaging
Dispose of as unused product.

SECTION 14: Transport Information

IATA / ADR / DOT – US / IMDG
Not regulated in the meaning of transport regulation

SECTION 15: Regulatory Information

U.S. Toxic Substances Control Act (U.S. TSCA)

Component	CAS No.	TSCA
2,3-Butanediol, 1,4-dimercapto-, (R*,R*)-	3483-12-3	Listed

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ

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

SARA 311/312 Hazards
Acute health hazard.

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

California Prop. 65 Components
This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

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

New Jersey Right to Know Components
No components are subject to the New Jersey Right to Know Act.

Pennsylvania Right to Know Components
No components are subject to the Pennsylvania Right to Know Act

SECTION 16: Other Information

16.1 Further information/disclaimer

Date of issue: 01 December 2025

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