

# SAFETY DATA SHEETS

**Library Construction Kit C, 4 rxns PN-1000689**

**Library Construction Kit C, 16 rxns PN-1000694**

**Library Construction Kit C, Automated 24 rxns/Manual 32 rxns PN-1000774**

REAGENTS	PN
Fragmentation Enzyme	2000090/ 2000104/2001315
Fragmentation Buffer	2000091/2001316
Ligation Mix	2001109/2001317
DNA Ligase	220110/ 220131/2001318
Library Amp Mix	2000531/2001319

## Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

Issue date 08/21/2018

Reviewed on 08/21/2018

### \* 1 Identification

- **Product Identifier**
- **Trade Name:** Fragmentation Enzyme  
Fragmentation Enzyme
- **Product Number:**  
2000090, 2001315  
2000104
- **Relevant identified uses of the substance or mixture and uses advised against:**
- **Product Description:** Enzyme blend for NGS library construction
- **Details of the Supplier of the Safety Data Sheet:**
- **Manufacturer/Supplier:**  
10X Genomics  
6230 Stoneridge Mall Road Pleasanton, CA 94588-3260  
T: +1 925 401 7300  
E: info@10xgenomics.com
- **Emergency telephone number:** 1 925 401 7300

### 2 Hazard(s) Identification

- **Classification of the substance or mixture:**  
The product does not need classification according to OSHA HazCom Standard 29 CFR paragraph (d) of §1910.1200(g) and GHS Rev 03.
- **Label elements:**
- **GHS label elements:** Non-Regulated Material
- **Hazard pictograms:** Non-Regulated Material
- **Signal word:** Non-Regulated Material
- **Hazard statements:** Non-Regulated Material
- **Unknown acute toxicity:**  
This value refers to knowledge of known, established toxicological or ecotoxicological values.  
0 % of the mixture consists of component(s) of unknown toxicity.
- **Classification system:** NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme
- **NFPA ratings (scale 0 - 4)**



- **HMIS-ratings (scale 0 - 4)**

HEALTH	0	Health = 0
FIRE	0	Fire = 0
REACTIVITY	0	Physical Hazard = 0

- **Hazard(s) not otherwise classified (HNOC):** None known

### 3 Composition/Information on Ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of substances listed below with non-hazardous additions.

#### • **Dangerous Components:**

Proprietary	50%
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**Trade Name: Fragmentation Enzyme**  
**Fragmentation Enzyme**

• **Additional information:**

The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets.

### 4 First-Aid Measures

• **Description of first aid measures**

• **General information:** No special measures required.

• **After inhalation:** Supply fresh air; consult doctor in case of complaints.

• **After skin contact:** If skin irritation occurs, consult a doctor.

• **After eye contact:**

Rinse opened eye for several minutes under running water.

If eye irritation occurs, consult a doctor.

• **After swallowing:** If swallowed and symptoms occur, consult a doctor.

• **Information for doctor**

• **Most important symptoms and effects, both acute and delayed:** No further relevant information available.

• **Indication of any immediate medical attention and special treatment needed:**

No further relevant information available.

### 5 Fire-Fighting Measures

• **Extinguishing media**

• **Suitable extinguishing agents:**

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

• **For safety reasons unsuitable extinguishing agents:** No further relevant information.

• **Special hazards arising from the substance or mixture:** No further relevant information available.

• **Advice for firefighters**

• **Special protective equipment for firefighters:**

As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

### 6 Accidental Release Measures

• **Personal precautions, protective equipment and emergency procedures:** Not required.

• **Environmental precautions:**

Dilute with plenty of water.

Do not allow to enter sewers/surface or ground water.

• **Methods and material for containment and cleaning up:**

Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).

Dispose of the collected material according to regulations.

• **Reference to other sections:**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

• **Protective Action Criteria for Chemicals**

• **PAC-1:**

Proprietary

45 mg/m3

• **PAC-2:**

Proprietary

180 mg/m3

• **PAC-3:**

Proprietary

1,100 mg/m3

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**Trade Name: Fragmentation Enzyme**  
**Fragmentation Enzyme**

### 7 Handling and Storage

- **Handling**
- **Precautions for safe handling:** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s):** No further relevant information available.

### 8 Exposure Controls/Personal Protection

- **Additional information about design of technical systems:** No further data; see section 7.
- **Control parameters:**

- **Components with occupational exposure limits:**

#### Proprietary

PEL	Long-term value: 15* 5** mg/m <sup>3</sup> mist; *total dust **respirable fraction
TLV	TLV withdrawn-insufficient data human occup. exp.

- **Additional information:** The lists that were valid during the creation of this SDS were used as basis.
- **Exposure controls:**
- **Personal protective equipment**
- **General protective and hygienic measures:**  
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:** Not required.
- **Material of gloves:** Not required.
- **Penetration time of glove material:** Not applicable.
- **Eye protection:** Not required.

### 9 Physical and Chemical Properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
  - Form:** Liquid
  - Color:** Colorless
  - Odour:** Odorless
  - Odor threshold:** Not determined.
  - pH-value:** Not applicable.
- **Change in condition**
  - Melting point/Melting range:** Not determined.
  - Boiling point/Boiling range:** 290 °C (554 °F)
- **Flash point:** None
- **Flammability (solid, gaseous):** Not applicable.

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**Trade Name: Fragmentation Enzyme**  
**Fragmentation Enzyme**

- **Ignition temperature:** 400 °C (752 °F)
- **Decomposition temperature:** Not determined.
- **Auto igniting:** Product is not self-igniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Explosion limits:**
  - Lower:** Not determined.
  - Upper:** Not determined.
- **Vapor pressure:** Not determined.
- **Density:**
  - Relative density:** Not determined.
  - Vapor density:** Not determined.
  - Evaporation rate:** Not determined.
- **Solubility in / Miscibility with:**
  - Water:** Fully miscible.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - Dynamic:** Not determined.
  - Kinematic:** Not determined.
- **Solvent content:**
  - Organic solvents:** 50.0 %
- **Other information:** No further relevant information available.

### 10 Stability and Reactivity

- **Reactivity:** No further relevant information available.
- **Chemical stability:** Stable under normal conditions.
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions:** No dangerous reactions known.
- **Conditions to avoid:** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological Information

- **Information on toxicological effects:**
- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

Proprietary		
Oral	LD50	12600 mg/kg (Rat)
Dermal	LD50	>10000 mg/kg (Rabbit)
Inhalative	LC50/96 hours	>50,000 mg/l (Trout)

- **Primary irritant effect:**
- **On the skin:** No irritating effect.
- **On the eye:** No irritating effect.

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**Fragmentation Enzyme**

• **Additional toxicological information:**

The product is not subject to classification according to internally approved calculation methods for preparations.

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

• **Carcinogenic categories:**

• **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

• **NTP (National Toxicology Program):**

None of the ingredients are listed.

• **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

### 12 Ecological Information

• **Toxicity:**

• **Aquatic toxicity:** No further relevant information available.

• **Persistence and degradability:** No further relevant information available.

• **Behavior in environmental systems:**

• **Bioaccumulative potential:** No further relevant information available.

• **Mobility in soil:** No further relevant information available.

• **Additional ecological information:**

• **General notes:**

Do not allow undiluted product or product that has not been neutralized to reach ground water, water course or sewage system.

• **Results of PBT and vPvB assessment:**

• **PBT:** Not applicable.

• **vPvB:** Not applicable.

• **Other adverse effects:** No further relevant information available.

### 13 Disposal Considerations

• **Waste treatment methods**

• **Recommendation:**

Smaller quantities can be disposed of with household waste.

Observe all federal, state and local environmental regulations when disposing of this material.

• **Uncleaned packaging**

• **Recommendation:** Disposal must be made according to official regulations.

• **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport Information

• **UN-Number:**

• **DOT, ADR/ADN, ADN, IMDG, IATA**

Non-Regulated Material

• **UN proper shipping name:**

• **DOT, ADR/ADN, ADN, IMDG, IATA**

Non-Regulated Material

• **Transport hazard class(es):**

• **DOT, ADR/ADN, ADN, IMDG, IATA**

• **Class:**

Non-Regulated Material

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**Trade Name: Fragmentation Enzyme**  
**Fragmentation Enzyme**

- **Packing group:**
- **DOT, ADR/ADN, IMDG, IATA** Non-Regulated Material
- **Environmental hazards:** Not applicable.
- **Special precautions for user:** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.
- **UN "Model Regulation":** Non-Regulated Material

### 15 Regulatory Information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture:**
- **SARA (Superfund Amendments and Reauthorization):**

- **Section 355 (extremely hazardous substances):**

None of the ingredients are listed.

- **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

- **TSCA (Toxic Substances Control Act):**

All ingredients are listed or exempt from listing.

- **California Proposition 65:**

- **Chemicals known to cause cancer:**

None of the ingredients are listed.

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

- **New Jersey Right-to-Know List:**

All ingredients are listed.

- **New Jersey Special Hazardous Substance List:**

None of the ingredients are listed.

- **Pennsylvania Right-to-Know List:**

All ingredients are listed.

- **Pennsylvania Special Hazardous Substance List:**

None of the ingredients are listed.

- **Carcinogenic categories:**

- **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

- **TLV (Threshold Limit Value established by ACGIH):**

None of the ingredients are listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health):**

None of the ingredients are listed.

- **GHS label elements** Non-Regulated Material

- **Hazard pictograms:** Non-Regulated Material

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**Trade Name: Fragmentation Enzyme**  
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- **Signal word:** Non-Regulated Material
- **Hazard statements:** Non-Regulated Material

• **National regulations:**

None of the ingredients are listed.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

- **Date of preparation / last revision:** 08/21/2018 / 2

• **Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road  
ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
ACGIH: American Conference of Governmental Industrial Hygienists  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
NIOSH: National Institute for Occupational Safety and Health  
OSHA: Occupational Safety & Health Administration  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit

- **\* Data compared to the previous version altered.**

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### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixtures  
Trade name : Fragmentation Buffer  
Product code : 220108, 2000091, 2001316

#### 1.2. Recommended use and restrictions on use

Use of the substance/mixture : Laboratory chemicals

#### 1.3. Supplier

10x Genomics  
6230 Stoneridge Mall Road Pleasanton,  
CA 94588-3260  
T: +1 925 401 7300  
E: info@10xgenomics.com

#### 1.4. Emergency telephone number

Emergency number : +1 925 401 7300

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Acute toxicity (oral) Category 3	Toxic if swallowed
Skin corrosion/irritation Category 2	Causes skin irritation
Serious eye damage/eye irritation Category 2	Causes serious eye irritation
Specific target organ toxicity (single exposure) Category 1	Causes damage to organs

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger

Hazard statements (GHS US) :

- Toxic if swallowed
- Causes skin irritation
- Causes serious eye irritation
- Causes damage to organs (central nervous system)

Precautionary statements (GHS US) :

- Do not breathe mist, spray, vapors.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Wear eye protection, protective gloves, protective clothing.
- If swallowed: Immediately call a POISON CENTER, a doctor.
- If on skin: Wash with plenty of soap and water.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If exposed: Call a poison center/doctor.
- Rinse mouth.

# Fragmentation Buffer

## Safety Data Sheet

according to US HazCom 2012

If skin irritation occurs: Get medical advice/attention.  
If eye irritation persists: Get medical advice/attention.  
Take off contaminated clothing and wash it before reuse.  
Store locked up.  
Dispose of contents/container to hazardous or special waste collection point, in accordance with local, national regulation.

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

No additional information available

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Not applicable

### 3.2. Mixtures

Name	Product identifier	%	GHS US classification
quaternary ammonium salts	CAS-No.: Proprietary	1 – 5	Acute Tox. 2 (Oral), H300 Acute Tox. 3 (Dermal), H311 Skin Irrit. 2, H315 STOT SE 1, H370
polyamine	CAS-No.: Proprietary	0.05 – 2	Skin Corr. 1B, H314 Eye Dam. 1, H318
Inorganic Salt 1	CAS-No.: Proprietary	0.5 – 2	Eye Irrit. 2, H319

\*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret.

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general	: Call a poison center or a doctor if you feel unwell.
First-aid measures after inhalation	: Remove person to fresh air and keep at rest in a position comfortable for breathing. Call a poison center or a doctor if you feel unwell.
First-aid measures after skin contact	: Wash with water and soap as a precaution. Seek medical attention if ill effect or irritation develops.
First-aid measures after eye contact	: Rinse immediately with plenty of water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Call a poison center or a doctor if you feel unwell.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects	: May cause damage to organs (central nervous system).
Symptoms/effects after skin contact	: Irritation.
Symptoms/effects after eye contact	: Eye irritation.
Symptoms/effects after ingestion	: Toxic if swallowed.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

# Fragmentation Buffer

## Safety Data Sheet

according to US HazCom 2012

### SECTION 5: Fire-fighting measures

#### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : hazy water, powder, foam (carbon dioxide (CO<sub>2</sub>)).  
Unsuitable extinguishing media : None known.

#### 5.2. Specific hazards arising from the chemical

Fire hazard : The product is not flammable. Does not sustain combustion. In the event of fire, may decompose : Carbon oxides (CO, CO<sub>2</sub>).  
Explosion hazard : No hazard identified.  
Hazardous decomposition products in case of fire : Thermal decomposition can lead to the release of irritating gases and vapors.

#### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Fight fire with normal precautions from a reasonable distance.  
Protection during firefighting : Do not attempt to take action without suitable protective equipment.

### SECTION 6: Accidental release measures

#### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : Avoid any direct contact with the product.

##### 6.1.1. For non-emergency personnel

Protective equipment : Wear recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection".  
Emergency procedures : Avoid contact with skin and eyes. Evacuate area.

##### 6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".  
Emergency procedures : Ventilate spillage area. Stop leak, if possible without risk. Avoid contact with skin and eyes. Evacuate unnecessary personnel.

#### 6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

#### 6.3. Methods and material for containment and cleaning up

For containment : Absorb spillage to prevent material-damage.  
Methods for cleaning up : Soak up with inert absorbent material (for example sand, sawdust, a universal binder, silica gel).  
Other information : Dispose in a safe manner in accordance with local/national regulations.

#### 6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For disposal of residues refer to section 13 : "Disposal considerations".

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment.  
Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

# Fragmentation Buffer

## Safety Data Sheet

according to US HazCom 2012

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: Keep container closed when not in use. Store locked up. Keep only in the original container in a cool well ventilated place.
Incompatible materials	: Oxidizing materials.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

<b>Fragmentation Buffer</b>	
No additional information available	
<b>quaternary ammonium salts (Proprietary)</b>	
No additional information available	
<b>polyamine (Proprietary)</b>	
No additional information available	
<b>Inorganic Salt 1 (Proprietary)</b>	
No additional information available	
<b>Monitoring methods</b>	
Monitoring methods	No additional information available.

### 8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

Avoid all unnecessary exposure.

<b>Hand protection:</b>
Wear protective gloves. Wear suitable gloves tested to ISO 374-1
<b>Eye protection:</b>
Chemical goggles or safety glasses. Use eye protection according to ISO 16321-1
<b>Skin and body protection:</b>
Wear long sleeves
<b>Respiratory protection:</b>
Wear suitable respiratory equipment in case of insufficient ventilation

#### Thermal hazard protection:

No special protection required.

#### Other information:

Do not eat, drink or smoke when using this product.

# Fragmentation Buffer

## Safety Data Sheet

according to US HazCom 2012

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: clear
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

#### 9.2. Other information

No additional information available

### SECTION 10: Stability and reactivity

#### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

#### 10.2. Chemical stability

The product is stable at normal handling and storage conditions.

#### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

#### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

#### 10.5. Incompatible materials

Oxidizing materials.

#### 10.6. Hazardous decomposition products

Thermal decomposition may produce : Carbon oxides (CO, CO<sub>2</sub>).

# Fragmentation Buffer

## Safety Data Sheet

according to US HazCom 2012

### SECTION 11: Toxicological information

#### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Toxic if swallowed.
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)

Fragmentation Buffer	
ATE US (oral)	99.663 mg/kg body weight
quaternary ammonium salts (Proprietary)	
ATE US (oral)	5 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
Inorganic Salt 1 (Proprietary)	
LD50 oral rat	1000 mg/kg (Source: OECD_SIDS)
LD50 dermal rabbit	> 5000 mg/kg (Source: OECD_SIDS)
ATE US (oral)	1000 mg/kg body weight

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: Causes damage to organs (central nervous system).

quaternary ammonium salts (Proprietary)	
STOT-single exposure	Causes damage to organs (central nervous system).
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
Viscosity, kinematic	: No data available
Symptoms/effects	: May cause damage to organs. Harmful to aquatic life with long lasting effects.
Symptoms/effects after skin contact	: Irritation.
Symptoms/effects after eye contact	: Eye irritation.
Symptoms/effects after ingestion	: Toxic if swallowed.
Other information	: Likely routes of exposure: ingestion, inhalation, skin and eye.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Inorganic Salt 1 (Proprietary)	
LC50 - Fish [1]	10650 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
EC50 - Crustacea [1]	2280000 – 3948000 µg/l (Exposure time: 48 h - Species: Daphnia magna)

#### 12.2. Persistence and degradability

Fragmentation Buffer	
Persistence and degradability	Not established.

# Fragmentation Buffer

## Safety Data Sheet

according to US HazCom 2012

### 12.3. Bioaccumulative potential

#### Fragmentation Buffer

Bioaccumulative potential	Not established.
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#### Inorganic Salt 1 (Proprietary)

BCF - Fish [1]	(no bioaccumulation)
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### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Effect on the ozone layer : No additional information available

Other information : Avoid release to the environment.

## SECTION 13: Disposal considerations

### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations. Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials : Avoid release to the environment.

## SECTION 14: Transport information

Contact 10X Genomics for shipping details

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

quaternary ammonium salts	CAS-No. Proprietary	Proprietary
polyamine	CAS-No. Proprietary	Proprietary
Nucleotide 1	CAS-No. Proprietary	< 1%
Nucleotide 2	CAS-No. Proprietary	< 1%
Nucleotide 3	CAS-No. Proprietary	< 1%
Nucleotide 4	CAS-No. Proprietary	< 1%

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

### 15.2. International regulations

#### Nucleotide 2 (Proprietary)

Listed on the NCI (Vietnam - National Chemical Inventory)

# Fragmentation Buffer

## Safety Data Sheet

according to US HazCom 2012

### Nucleotide 4 (Proprietary)

Listed on the NCI (Vietnam - National Chemical Inventory)

### Inorganic Salt 1 (Proprietary)

Listed on the NCI (Vietnam - National Chemical Inventory)

### Inorganic Salt 2 (Proprietary)

Listed on the NCI (Vietnam - National Chemical Inventory)

Listed on TECI (Thailand Existing Chemicals Inventory)

### Inorganic Salt 3 (Proprietary)

Listed on the NCI (Vietnam - National Chemical Inventory)

Listed on TECI (Thailand Existing Chemicals Inventory)

### Alkanediol, hydrochloride (Proprietary)

Listed on the NCI (Vietnam - National Chemical Inventory)

## 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

## SECTION 16: Other information

according to US HazCom 2012

Revision date : 21 September 2023

Other information : None.

NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

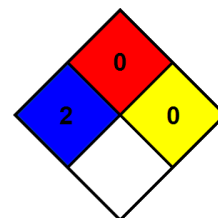
NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.

NFPA specific hazard : None

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.





### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixtures  
Trade name : Tube, Ligation Mix  
Product code : 2001109, 2001317

#### 1.2. Recommended use and restrictions on use

Use of the substance/mixture : Reagent  
Recommended use : For professional use only

#### 1.3. Supplier

10x Genomics  
6230 Stoneridge Mall Road Pleasanton,  
CA 94588-3260  
T: +1 925 401 7300  
E: info@10xgenomics.com

#### 1.4. Emergency telephone number

Emergency number : +1 925 401 7300

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Not classified

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

No labeling applicable

#### 2.3. Other hazards which do not result in classification

No additional information available

#### 2.4. Unknown acute toxicity (GHS US)

No additional information available

### SECTION 3: Composition/Information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of HazCom 2012

### SECTION 4: First-aid measures

#### 4.1. Description of first aid measures

First-aid measures general : Not expected to present a significant hazard under anticipated conditions of normal use. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).  
First-aid measures after inhalation : Remove person to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, consult a doctor.

# Tube, Ligation Mix

## Safety Data Sheet

according to US HazCom 2012

First-aid measures after skin contact	: Wash with water and soap as a precaution. If skin irritation occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse eyes with water as a precaution. Seek medical attention if ill effect or irritation develops.
First-aid measures after ingestion	: Rinse mouth out with water. Do not induce vomiting. If you feel unwell, seek medical advice.

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects	: Not expected to present a significant hazard under anticipated conditions of normal use.
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### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Use extinguishing media appropriate for surrounding fire.
Unsuitable extinguishing media	: None known.

### 5.2. Specific hazards arising from the chemical

Fire hazard	: The product is not flammable. Does not sustain combustion.
Explosion hazard	: No hazard identified.
Hazardous decomposition products in case of fire	: Thermal decomposition may produce : Carbon oxides (CO, CO2).

### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Fight fire with normal precautions from a reasonable distance.
Protection during firefighting	: Do not attempt to take action without suitable protective equipment.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures	: No special requirements.
------------------	----------------------------

#### 6.1.1. For non-emergency personnel

Protective equipment	: No special protection required.
Emergency procedures	: No additional risk management measures required.

#### 6.1.2. For emergency responders

Protective equipment	: No special protection required.
Emergency procedures	: No additional risk management measures required.

### 6.2. Environmental precautions

No special environmental precautions required.

### 6.3. Methods and material for containment and cleaning up

For containment	: Absorb spillage to prevent material-damage.
Methods for cleaning up	: Wipe up with absorbent material (for example cloth).
Other information	: Dispose in a safe manner in accordance with local/national regulations.

### 6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For disposal of residues refer to section 13 : "Disposal considerations".

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling	: No special handling advices are necessary.
-------------------------------	--

# Tube, Ligation Mix

## Safety Data Sheet

according to US HazCom 2012

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product. Use good personal hygiene practices.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.  
Incompatible materials : Strong acids. Strong bases.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Tube, Ligation Mix

No additional information available

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.  
Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

#### Materials for protective clothing:

Not required for normal conditions of use. Normal use of this product shall imply use in accordance with the instructions on the packaging

#### Hand protection:

Not required for normal conditions of use. Normal use of this product shall imply use in accordance with the instructions on the packaging

#### Eye protection:

Not required for normal conditions of use. Normal use of this product shall imply use in accordance with the instructions on the packaging

#### Respiratory protection:

No special protection required. In case of inadequate ventilation wear respiratory protection.

#### Thermal hazard protection:

No special protection required.

#### Other information:

Do not eat, drink or smoke during use.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state : Liquid  
Appearance : Clear. Viscous.  
Color : colorless  
Odor : Odorless  
Odor threshold : No data available  
pH : No data available  
Melting point : No data available  
Freezing point : No data available  
Boiling point : No data available  
Flash point : does not flash  
Relative evaporation rate (butyl acetate=1) : No data available  
Flammability (solid, gas) : Non flammable.  
Vapor pressure : No data available  
Relative vapor density at 20°C : No data available

# Tube, Ligation Mix

## Safety Data Sheet

according to US HazCom 2012

Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

The product is stable at normal handling and storage conditions.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Hazardous polymerization will not occur.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

Thermal decomposition can lead to the release of irritating gases and vapors.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)
Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met)
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met)
Respiratory or skin sensitization	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
Viscosity, kinematic	: No data available
Symptoms/effects	: Not expected to present a significant hazard under anticipated conditions of normal use.
Other information	: Likely routes of exposure: ingestion, inhalation, skin and eye.

# Tube, Ligation Mix

## Safety Data Sheet

according to US HazCom 2012

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : This material has not been tested for environmental effects.

#### 12.2. Persistence and degradability

##### Tube, Ligation Mix

Persistence and degradability	Not established.
-------------------------------	------------------

#### 12.3. Bioaccumulative potential

##### Tube, Ligation Mix

Bioaccumulative potential	Not established.
---------------------------	------------------

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

Effect on the ozone layer : No additional information available

Other information : Avoid release to the environment.

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations.
Ecology - waste materials	: Avoid release to the environment.

### SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
<b>14.1. UN number</b>			
Not regulated for transport			
<b>14.2. Proper Shipping Name</b>			
Not regulated	Not regulated	Not regulated	Not regulated
<b>14.3. Transport hazard class(es)</b>			
Not regulated	Not regulated	Not regulated	Not regulated
<b>14.4. Packing group</b>			
Not regulated	Not regulated	Not regulated	Not regulated
<b>14.5. Environmental hazards</b>			
Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available			

#### 14.6. Special precautions for user

##### DOT

Not regulated

# Tube, Ligation Mix

## Safety Data Sheet

according to US HazCom 2012

### TDG

Not regulated

### IMDG

Not regulated

### IATA

Not regulated

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory, except for:

DNA Oligos	CAS-No. Not Assignend	< 100%
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This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

### 15.2. International regulations

#### Inorganic salt (proprietary)

Listed on the NCI (Vietnam - National Chemical Inventory)

Listed on TECI (Thailand Existing Chemicals Inventory)

#### Solvent (proprietary)

Listed on the NCI (Vietnam - National Chemical Inventory)

Listed on TECI (Thailand Existing Chemicals Inventory)

#### Organic, hydrochloride (proprietary)

Listed on the NCI (Vietnam - National Chemical Inventory)

### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

## SECTION 16: Other information

according to US HazCom 2012

Revision date

: 14 November 2023

Other information

: None.

NFPA health hazard

: 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.

NFPA fire hazard

: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

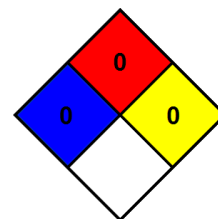
NFPA reactivity

: 0 - Material that in themselves are normally stable, even under fire conditions.

NFPA specific hazard

: None

Safety Data Sheet (SDS), USA



This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

### SECTION 1: Identification

#### 1.1. Identification

Product form : Mixtures  
Trade name : DNA Ligase  
Product code : 220110, 220131, 2001318

#### 1.2. Recommended use and restrictions on use

Use of the substance/mixture : Reagent

#### 1.3. Supplier

10x Genomics  
6230 Stoneridge Mall Road Pleasanton,  
CA 94588-3260  
T: +1 925 401 7300  
E: info@10xgenomics.com

#### 1.4. Emergency telephone number

Emergency number : +1 925 401 7300

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Not classified

#### 2.2. GHS Label elements, including precautionary statements

##### GHS US labeling

No labeling applicable

#### 2.3. Other hazards which do not result in classification

No additional information available

#### 2.4. Unknown acute toxicity (GHS US)

No additional information available

### SECTION 3: Composition/Information on ingredients

#### 3.1. Substances

Not applicable

#### 3.2. Mixtures

This mixture does not contain any substances to be mentioned according to the criteria of section 3.2 of HazCom 2012

### SECTION 4: First-aid measures

#### 4.1. Description of first aid measures

First-aid measures general : If you feel unwell, seek medical advice (show the label where possible).  
First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.  
First-aid measures after skin contact : Wash with water and soap as a precaution. If skin irritation occurs: Get medical advice/attention.  
First-aid measures after eye contact : Rinse eyes with water as a precaution. Seek medical attention if ill effect or irritation develops.  
First-aid measures after ingestion : Rinse mouth out with water. Do not induce vomiting. If you feel unwell, seek medical advice.

# DNA Ligase

## Safety Data Sheet

according to US HazCom 2012

### 4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects : Not expected to present a significant inhalation hazard under anticipated conditions of normal use. Normal use of this product shall imply use in accordance with the instructions on the packaging.

### 4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.  
Unsuitable extinguishing media : None known.

### 5.2. Specific hazards arising from the chemical

Fire hazard : The product is not flammable. In the event of fire, may decompose : Carbon oxides (CO, CO<sub>2</sub>). Chlorinated derivatives.  
Explosion hazard : No hazard identified.  
Hazardous decomposition products in case of fire : Thermal decomposition may produce : Carbon oxides (CO, CO<sub>2</sub>). Chlorinated derivatives.

### 5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Fight fire with normal precautions from a reasonable distance.  
Protection during firefighting : Do not attempt to take action without suitable protective equipment.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

General measures : No special requirements.

#### 6.1.1. For non-emergency personnel

Protective equipment : No special protection required.  
Emergency procedures : No additional risk management measures required.

#### 6.1.2. For emergency responders

Protective equipment : No special protection required.  
Emergency procedures : No additional risk management measures required.

### 6.2. Environmental precautions

Avoid release to the environment.

### 6.3. Methods and material for containment and cleaning up

For containment : Absorb spillage to prevent material-damage.  
Methods for cleaning up : Wipe up with absorbent material (for example cloth).  
Other information : Dispose in a safe manner in accordance with local/national regulations.

### 6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For disposal of residues refer to section 13 : "Disposal considerations".

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling : No special handling advices are necessary.



# DNA Ligase

## Safety Data Sheet

according to US HazCom 2012

Hygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product. Use good personal hygiene practices.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool.  
Incompatible materials : None known.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

DNA Ligase	
No additional information available	
Alkanetriol (Proprietary)	
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [1]	15 mg/m <sup>3</sup> (mist, total particulate) 5 mg/m <sup>3</sup> (mist, respirable fraction)
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1
Monitoring methods	
Monitoring methods	No additional information available.

### 8.2. Appropriate engineering controls

Appropriate engineering controls : No special requirements. None in normal use conditions. Normal use of this product shall imply use in accordance with the instructions on the packaging.

### 8.3. Individual protection measures/Personal protective equipment

#### Personal protective equipment:

No special protection required.

#### Other information:

Do not eat, drink or smoke when using this product.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear.
Color	: Colorless
Odor	: Odorless
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: does not flash
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available

# DNA Ligase

## Safety Data Sheet

according to US HazCom 2012

Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

### 9.2. Other information

No additional information available

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

### 10.5. Incompatible materials

None known.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced. Thermal decomposition may produce : Carbon oxides (CO, CO<sub>2</sub>). Chlorinated derivatives.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (dermal)	: Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation)	: Not classified (Based on available data, the classification criteria are not met)
Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met)
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met)
Respiratory or skin sensitization	: Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity	: Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity	: Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure	: Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure	: Not classified (Based on available data, the classification criteria are not met)
Aspiration hazard	: Not classified (Based on available data, the classification criteria are not met)
Viscosity, kinematic	: No data available
Symptoms/effects	: Not expected to present a significant inhalation hazard under anticipated conditions of normal use. Normal use of this product shall imply use in accordance with the instructions on the packaging.
Other information	: Likely routes of exposure: ingestion, inhalation, skin and eye.

# DNA Ligase

## Safety Data Sheet

according to US HazCom 2012

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - general : This material has not been tested for environmental effects.

#### 12.2. Persistence and degradability

No additional information available

#### 12.3. Bioaccumulative potential

No additional information available

#### 12.4. Mobility in soil

No additional information available

#### 12.5. Other adverse effects

Other information : Avoid release to the environment.

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.  
Product/Packaging disposal recommendations : Dispose in a safe manner in accordance with local/national regulations.  
Ecology - waste materials : Avoid release to the environment.

### SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
<b>14.1. UN number</b>			
Not regulated for transport			
<b>14.2. Proper Shipping Name</b>			
Not regulated	Not regulated	Not regulated	Not regulated
<b>14.3. Transport hazard class(es)</b>			
Not regulated	Not regulated	Not regulated	Not regulated
<b>14.4. Packing group</b>			
Not regulated	Not regulated	Not regulated	Not regulated
<b>14.5. Environmental hazards</b>			
Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available			

#### 14.6. Special precautions for user

##### DOT

Not regulated

##### TDG

Not regulated

##### IMDG

Not regulated

# DNA Ligase

## Safety Data Sheet

according to US HazCom 2012

### IATA

Not regulated

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

This product or mixture is not known to contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

#### Chelating Agent (Proprietary)

CERCLA RQ

5000 lb

### 15.2. International regulations

#### Alkanetriol (Proprietary)

Listed on the NCI (Vietnam - National Chemical Inventory)

Listed on TECI (Thailand Existing Chemicals Inventory)

#### Chelating Agent (Proprietary)

Listed on the NCI (Vietnam - National Chemical Inventory)

Listed on TECI (Thailand Existing Chemicals Inventory)

#### Alkanediol (Proprietary)

Listed on the NCI (Vietnam - National Chemical Inventory)

#### Alkanediol, hydrochloride (Proprietary)

Listed on the NCI (Vietnam - National Chemical Inventory)

#### Inorganic salt (Proprietary)

Listed on the NCI (Vietnam - National Chemical Inventory)

Listed on TECI (Thailand Existing Chemicals Inventory)

### 15.3. US State regulations

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

Component	State or local regulations
Alkanetriol (Proprietary)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List; U.S. - Minnesota - Hazardous Substance List; U.S. - Massachusetts - Right To Know List

# DNA Ligase

## Safety Data Sheet

according to US HazCom 2012

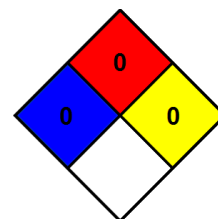
Component	State or local regulations
Chelating Agent (Proprietary)	U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List; U.S. - Massachusetts - Right To Know List; U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

### SECTION 16: Other information

according to US HazCom 2012

Revision date : 27 September 2023  
Other information : None.

NFPA health hazard : 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials.  
NFPA fire hazard : 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.  
NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.  
NFPA specific hazard : None



Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

## Safety Data Sheet (SDS)

OSHA HazCom Standard 29 CFR 1910.1200(g) revised in 2012 and GHS Rev 03.

Issue date 02/14/2022

Reviewed on 02/14/2022

### \* 1 Identification

- **Product Identifier**
- **Trade Name:** Library Amp Mix
- **Product Number:**  
2000531, 2001319
- **Relevant identified uses of the substance or mixture and uses advised against:**
- **Product Description:** Industry-specific application
- **Details of the Supplier of the Safety Data Sheet:**
- **Manufacturer/Supplier:**  
10x Genomics  
6230 Stoneridge Mall Road  
Pleasanton, CA 94588 USA  
1 925 401 7300  
<https://www.10xgenomics.com/>
- **Emergency telephone number:** 1 925 401 7300

### 2 Hazard(s) Identification

- **Classification of the substance or mixture:**



Skin Irritation 2 H315 Causes skin irritation.

Eye Irritation 2B H320 Causes eye irritation.

- **Label elements:**
- **Hazard pictograms:**



- **Signal word:** Warning
- **Hazard statements:**  
H315+H320 Causes skin and eye irritation.
- **Precautionary statements:**

P264	Wash thoroughly after handling.
P280	Wear protective gloves.
P302+P352	If on skin: Wash with plenty of water.
P321	Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P337+P313	If eye irritation persists: Get medical advice/attention.
- **Unknown acute toxicity:**  
This value refers to knowledge of known, established toxicological or ecotoxicological values.  
0 % of the mixture consists of component(s) of unknown toxicity.
- **Classification system:** NFPA/HMIS Definitions: 0-Least, 1-Slight, 2-Moderate, 3-High, 4-Extreme

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· **NFPA ratings (scale 0 - 4)**



· **HMS-ratings (scale 0 - 4)**



· **Hazard(s) not otherwise classified (HNOC):** None known

### \* 3 Composition/Information on Ingredients

· **Chemical characterization: Substance**

· **Description:** Mixture of substances listed below with non-hazardous additions.

· **Dangerous Components:**

	Trade Secret	1-25%
9016-45-9	Nonylphenoxypoly(ethyleneoxy)ethanol ⚠ Acute Toxicity - Dermal 4, H312; Skin Irritation 2, H315; Eye Irritation 2A, H319	<6%
7664-93-9	Sulfuric acid ⚠ Skin Corrosion 1A, H314 Specific concentration limits: Skin Corrosion 1A; H314: C ≥ 15 % Skin Irritation 2; H315: 5 % ≤ C < 15 % Eye Irritation 2; H319: 5 % ≤ C < 15 %	<2%

· **Additional information:**

The exact percentages of the ingredients of this mixture are considered to be proprietary and are withheld in accordance with the provisions of paragraph (i) of §1910.1200 of 29 CFR 1910.1200 Trade Secrets.

### 4 First-Aid Measures

· **Description of first aid measures**

· **After inhalation:**

In case of unconsciousness place patient stably in the side position for transportation.  
Supply fresh air; consult doctor in case of complaints.

· **After skin contact:**

Wash with soap and water.  
If skin irritation occurs, consult a doctor.

· **After eye contact:**

Rinse opened eye for several minutes under running water.  
If easy to do so, remove contact lenses if worn.  
If eye irritation occurs, consult a doctor.

· **After swallowing:**

If swallowed and symptoms occur, consult a doctor.  
Do not induce vomiting without medical advice.

· **Information for doctor**

· **Most important symptoms and effects, both acute and delayed:** No further relevant information available.

· **Indication of any immediate medical attention and special treatment needed:**

No further relevant information available.

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### 5 Fire-Fighting Measures

- **Extinguishing media**
- **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
- **For safety reasons unsuitable extinguishing agents:** No further relevant information.
- **Special hazards arising from the substance or mixture:** No further relevant information available.
- **Advice for firefighters**
- **Special protective equipment for firefighters:**  
As in any fire, wear self-contained breathing apparatus pressure-demand (NIOSH approved or equivalent) and full protective gear to prevent contact with skin and eyes.

### 6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures:**  
Do not inhale gases / fumes / aerosols  
Avoid contact with skin, eyes and clothing.
- **Environmental precautions:** Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (i.e. sand, diatomite, acid binders, universal binders, sawdust).  
Dispose of the collected material according to regulations.
- **Reference to other sections:**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

#### · PAC-1:

	Trade Secret	45 mg/m <sup>3</sup>
9016-45-9	Nonylphenoxypoly(ethyleneoxy)ethanol	43 mg/m <sup>3</sup>
7664-93-9	Sulfuric acid	0.20 mg/m <sup>3</sup>

#### · PAC-2:

	Trade Secret	180 mg/m <sup>3</sup>
9016-45-9	Nonylphenoxypoly(ethyleneoxy)ethanol	470 mg/m <sup>3</sup>
7664-93-9	Sulfuric acid	8.7 mg/m <sup>3</sup>

#### · PAC-3:

	Trade Secret	1,100 mg/m <sup>3</sup>
9016-45-9	Nonylphenoxypoly(ethyleneoxy)ethanol	5,400 mg/m <sup>3</sup>
7664-93-9	Sulfuric acid	160 mg/m <sup>3</sup>

### 7 Handling and Storage

- **Handling**
- **Precautions for safe handling:** Avoid release into the environment.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage**
- **Requirements to be met by storerooms and receptacles:** Store at room temperature.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s):** No further relevant information available.

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### 8 Exposure Controls/Personal Protection

· **Additional information about design of technical systems:** No further data; see section 7.

· **Control parameters:**

· **Components with occupational exposure limits:**

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.

At this time, the remaining constituents have no known exposure limits.

#### Trade Secret

PEL Long-term value: 15\* 5\*\* mg/m<sup>3</sup>  
mist; \*total dust \*\*respirable fraction

TLV TLV withdrawn-insufficient data human occup. exp.

#### 7664-93-9 Sulfuric acid

PEL Long-term value: 1 mg/m<sup>3</sup>

REL Long-term value: 1 mg/m<sup>3</sup>

TLV Long-term value: 0.2\* mg/m<sup>3</sup>  
\*as thoracic fraction, A2

· **Additional information:** The lists that were valid during the creation of this SDS were used as basis.

· **Exposure controls:**

· **Personal protective equipment**

· **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.

Wash hands before breaks and at the end of work.

· **Breathing equipment:** Not required.

· **Protection of hands:**



Protective gloves

· **Material of gloves:**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material cannot be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material:**

The exact break-through time has to be determined and observed by the manufacturer of the protective gloves.

· **Eye protection:**



Safety glasses

· **Limitation and supervision of exposure into the environment:** None

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### 9 Physical and Chemical Properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form: Liquid

Color: Clear, colorless

· **Odor:** Odorless

· **Odor threshold:** Not determined.

· **pH-value:** Not applicable.

· **Change in condition**

Melting point/Melting range: Not determined.

· **Flash point:** None

· **Flammability (solid, gaseous):** Not applicable.

· **Ignition temperature:** Not applicable

· **Decomposition temperature:** Not determined.

· **Auto igniting:** Product is not self-igniting.

· **Danger of explosion:** Product does not present an explosion hazard.

· **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

· **Vapor pressure:** Not determined.

· **Density:** Not determined.

· **Relative density:** Not determined.

· **Vapor density:** Not determined.

· **Evaporation rate:** Not determined.

· **Solubility in / Miscibility with:**

Water: Fully miscible.

· **Partition coefficient (n-octanol/water):** Not determined.

· **Viscosity:**

Dynamic: Not determined.

Kinematic: Not determined.

· **Other information:** No further relevant information available.

### 10 Stability and Reactivity

· **Reactivity:** No further relevant information available.

· **Chemical stability:** Stable under normal conditions.

· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.

· **Possibility of hazardous reactions:** No dangerous reactions known.

· **Conditions to avoid:** Contact with moisture, acids and bases.

· **Incompatible materials:**

Strong oxidizing agents, strong reducing agents

Strong acids, strong bases

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- **Hazardous decomposition products:** No dangerous decomposition products known.

### 11 Toxicological Information

- **Information on toxicological effects:**

- **Acute toxicity:**

- **LD/LC50 values that are relevant for classification:**

#### Trade Secret

Oral	LD50	12,600 mg/kg (Rat)
Dermal	LD50	>10,000 mg/kg (Rabbit)
Inhalative	LC50/96 hours	>50,000 mg/l (Trout)

#### 9016-45-9 Nonylphenoxypoly(ethyleneoxy)ethanol

Oral	LD50	3,310 mg/kg (Rat)
Dermal	LD50	>2,000 mg/kg (Rat)

#### 7664-93-9 Sulfuric acid

Oral	LD50 Oral	2,140 ml/kg (Rat)
Inhalative	LC50/96 hours	375 mg/l (Rat)
Sulfuric acid is harmful by all routes of entry.		

- **Primary irritant effect:**

- **On the skin:** No irritating effect.

- **On the eye:** Irritating effect.

- **Additional toxicological information:**

- **Carcinogenic categories:**

- **IARC (International Agency for Research on Cancer):**

- Group 1 - Carcinogenic to humans
- Group 2A - Probably carcinogenic to humans
- Group 2B - Possibly carcinogenic to humans
- Group 3 - Not classifiable as to its carcinogenicity to humans
- Group 4 - Probably not carcinogenic to humans

7664-93-9 Sulfuric acid

7664-93-9

- **NTP (National Toxicology Program):**

None of the ingredients are listed.

- **OSHA-Ca (Occupational Safety & Health Administration):**

None of the ingredients are listed.

### 12 Ecological Information

- **Toxicity:**

- **Aquatic toxicity:**

#### 9016-45-9 Nonylphenoxypoly(ethyleneoxy)ethanol

EC50	12 mg/l (Algae - Selenastrum capricornutum) (96 HOURS)
	0.148 mg/l (Daphnia) (48 hours)

#### 7664-93-9 Sulfuric acid

EC50	22 mg/l (Daphnia)
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- **Persistence and degradability:** No further relevant information available.

- **Behavior in environmental systems:**

- **Bioaccumulative potential:** No further relevant information available.

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- **Mobility in soil:** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Do not allow undiluted product or product that has not been neutralized to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment:**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects:** No further relevant information available.

### 13 Disposal Considerations

- **Waste treatment methods**
- **Recommendation:**  
Observe all federal, state and local environmental regulations when disposing of this material.
- **Uncleaned packaging**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport Information

- **UN-Number:**
- **DOT, ADR/ADN, ADN, IMDG, IATA** Non-Regulated Material
- **UN proper shipping name:**
- **DOT, ADR/ADN, ADN, IMDG, IATA** Non-Regulated Material
- **Transport hazard class(es):**
- **DOT, ADR/ADN, ADN, IMDG, IATA**
- **Class:** Non-Regulated Material
- **Packing group:**
- **DOT, ADR/ADN, IMDG, IATA** Non-Regulated Material
- **Environmental hazards:** Not applicable.
- **Special precautions for user:** Not applicable.
- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:** Not applicable.
- **UN "Model Regulation":** Non-Regulated Material

### 15 Regulatory Information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture:**  
No further relevant information available.
- **SARA (Superfund Amendments and Reauthorization):**

#### Section 355 (extremely hazardous substances):

7664-93-9	Sulfuric acid
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#### Section 313 (Specific toxic chemical listings):

9016-45-9	Nonylphenoxypoly(ethyleneoxy)ethanol
7664-93-9	Sulfuric acid

#### TSCA (Toxic Substances Control Act):

All components have the value ACTIVE.

#### Hazardous Air Pollutants

None of the ingredients are listed.

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· **California Proposition 65:**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **New Jersey Right-to-Know List:**

Trade Secret

7664-93-9 Sulfuric acid

· **New Jersey Special Hazardous Substance List:**

7664-93-9 Sulfuric acid

CA, CO, R2

· **Pennsylvania Right-to-Know List:**

Trade Secret

7664-93-9 Sulfuric acid

· **Pennsylvania Special Hazardous Substance List:**

7664-93-9 Sulfuric acid

E

· **Carcinogenic categories:**

· **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

· **TLV (Threshold Limit Value established by ACGIH):**

7664-93-9 Sulfuric acid

A2

· **NIOSH-Ca (National Institute for Occupational Safety and Health):**

None of the ingredients are listed.

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms:**



· **Signal word:** Warning

· **Hazard statements:**

H315+H320 Causes skin and eye irritation.

· **Precautionary statements:**

P264 Wash thoroughly after handling.

P280 Wear protective gloves.

P302+P352 If on skin: Wash with plenty of water.

P321 Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).

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

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

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

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P337+P313 If eye irritation persists: Get medical advice/attention.

#### · **National regulations:**

The product is not subject to be labelled according with the prevailing version of the regulations on hazardous substances.

#### · **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

### 16 Other Information

The information and recommendations in this safety data sheet are, to the best of our knowledge, accurate as of the date of issue. Nothing herein shall be deemed to create warranty, expressed or implied, and shall not establish a legally valid contractual relationship. It is the responsibility of the user to determine applicability of this information and the suitability of the material or product for any particular purpose.

#### · **Contact:**

#### · **Date of last revision/ revision number:** 02/14/2022 / 9

#### · **Abbreviations and acronyms:**

ADR: The European Agreement concerning the International Carriage of Dangerous Goods by Road

ADN: The European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety and Health

OSHA: Occupational Safety & Health Administration

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

Acute Toxicity - Dermal 4: Acute toxicity – Category 4

Skin Corrosion 1A: Skin corrosion/irritation – Category 1A

Skin Irritation 2: Skin corrosion/irritation – Category 2

Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A

Eye Irritation 2B: Serious eye damage/eye irritation – Category 2B

#### · **\* Data compared to the previous version altered.**

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