

## SAFETY DATA SHEETS

### Library Construction Kit, 16 rxns PN-1000190 Library Construction Kit, 4 rxns PN-1000196

REAGENTS	PN
Fragmentation Enzyme	2000090/ 2000104
Fragmentation Buffer	2000091
Ligation Buffer	2000092
DNA Ligase	220110/ 220131
Adaptor Oligos	2000094
Amp Mix	2000047

**Safety Data Sheet (SDS)**

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

Issue date 08/21/2018

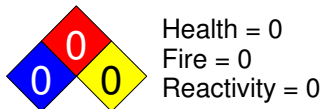
Reviewed on 08/21/2018

**\* 1 Identification**

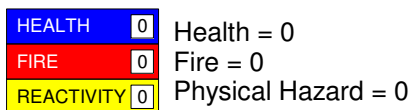
- **Product Identifier**
- **Trade Name: Fragmentation Enzyme**  
**Fragmentation Enzyme**
- **Product Number:**  
2000090  
2000104
- **Relevant identified uses of the substance or mixture and uses advised against:**
- **Product Description:** Enzyme blend for NGS library construction
- **Details of the Supplier of the Safety Data Sheet:**
- **Manufacturer/Supplier:**  
10X Genomics  
7068 Koll Center Parkway  
Suite 401  
Pleasanton, CA 94566  
1 925 401 7300
- **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)**



- **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.

• <b>Dangerous Components:</b>	
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**

· <b>PAC-1:</b>	
Proprietary	45 mg/m3
· <b>PAC-2:</b>	
Proprietary	180 mg/m3
· <b>PAC-3:</b>	
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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Reviewed on 08/21/2018

**Trade Name: Fragmentation Enzyme**  
**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:** Non-Regulated Material
- **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):**

• <b>Section 355 (extremely hazardous substances):</b>
None of the ingredients are listed.

• <b>Section 313 (Specific toxic chemical listings):</b>
None of the ingredients are listed.

• <b>TSCA (Toxic Substances Control Act):</b>
All ingredients are listed or exempt from listing.

• <b>California Proposition 65:</b>
• <b>Chemicals known to cause cancer:</b>
None of the ingredients are listed.

• <b>Chemicals known to cause reproductive toxicity for females:</b>
None of the ingredients are listed.

• <b>Chemicals known to cause reproductive toxicity for males:</b>
None of the ingredients are listed.

• <b>Chemicals known to cause developmental toxicity:</b>
None of the ingredients are listed.

• <b>New Jersey Right-to-Know List:</b>
All ingredients are listed.

• <b>New Jersey Special Hazardous Substance List:</b>
None of the ingredients are listed.

• <b>Pennsylvania Right-to-Know List:</b>
All ingredients are listed.

• <b>Pennsylvania Special Hazardous Substance List:</b>
None of the ingredients are listed.

- **Carcinogenic categories:**

• <b>EPA (Environmental Protection Agency):</b>
None of the ingredients are listed.

• <b>TLV (Threshold Limit Value established by ACGIH):</b>
None of the ingredients are listed.

• <b>NIOSH-Ca (National Institute for Occupational Safety and Health):</b>
None of the ingredients are listed.

- **GHS label elements** Non-Regulated Material
- **Hazard pictograms:** Non-Regulated Material

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Reviewed on 08/21/2018

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

- **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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**Safety Data Sheet (SDS)**

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

Issue date 08/21/2018

Reviewed on 10/07/2016

**1 Identification**

- **Product Identifier**
- **Trade Name: Fragmentation Buffer**
- **Product Number:** 2000091
- **Relevant identified uses of the substance or mixture and uses advised against:**
- **Product Description:** Buffer for Fragmentation Blend
- **Details of the Supplier of the Safety Data Sheet:**
- **Manufacturer/Supplier:**  
10X Genomics  
7068 Koll Center Parkway  
Suite 401  
Pleasanton, CA 94566  
1 925 401 7300
- **Emergency telephone number:** 1 925 401 7300

**2 Hazard(s) Identification**

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



Acute Tox. 4 H302 Harmful if swallowed.  
Skin Irrit. 2 H315 Causes skin irritation.

- **Label elements:**
- **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**



GHS07

- **Signal word:** Warning
- **Hazard-determining components of labeling:**  
Proprietary
- **Hazard statements:**  
H302 Harmful if swallowed.  
H315 Causes skin irritation.
- **Precautionary statements:**  
P264 Wash thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P280 Wear protective gloves.  
P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.  
P330 Rinse mouth.  
P302+P352 If on skin: Wash with plenty of water.  
P321 Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).  
P332+P313 If skin irritation occurs: Get medical advice/attention.  
P362+P364 Take off contaminated clothing and wash it before reuse.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Unknown acute toxicity:**  
This value refers to knowledge of known, established toxicological or ecotoxicological values.

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## Safety Data Sheet (SDS)

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

Issue date 08/21/2018

Reviewed on 10/07/2016

### Trade Name: Fragmentation Buffer

10.1 % 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	2	Health = 2
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	⚠ Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320	8%
Proprietary	⚠ Acute Tox. 2, H300; ⚠ Skin Irrit. 2, H315	≤ 2.5%

#### 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:** 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.

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## Safety Data Sheet (SDS)

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

Issue date 08/21/2018

Reviewed on 10/07/2016

**Trade Name: Fragmentation Buffer**

### 6 Accidental Release Measures

- **Personal precautions, protective equipment and emergency procedures:** Not required.
- **Environmental precautions:** 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).  
Ensure adequate ventilation.  
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**

• <b>PAC-1:</b>	
Proprietary	12 mg/m3
Proprietary	0.15 mg/m3
Proprietary	0.15 mg/m3
• <b>PAC-2:</b>	
Proprietary	130 mg/m3
Proprietary	1.7 mg/m3
Proprietary	1.7 mg/m3
• <b>PAC-3:</b>	
Proprietary	790 mg/m3
Proprietary	9.9 mg/m3
Proprietary	9.9 mg/m3

### 7 Handling and Storage

- **Handling**
- **Precautions for safe handling:**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **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:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation of this SDS were used as basis.

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**Trade Name: Fragmentation Buffer**

- **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

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Select glove material based on penetration times, rates of diffusion and degradation.

- **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

### 9 Physical and Chemical Properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

<b>Form:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odour:</b>	Odorless
<b>Odor threshold:</b>	Not determined.
<b>pH-value @ 20 °C (68 °F):</b>	7.5
- **Change in condition**

<b>Melting point/Melting range:</b>	Not determined.
<b>Boiling point/Boiling range:</b>	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.

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**Trade Name: Fragmentation Buffer**

- **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:** 0.0 %
  - Solids content:** 11.8 %
- **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:** No data available.
- **Primary irritant effect:**
- **On the skin:** No irritating effect.
- **On the eye:** No irritating effect.
- **Additional toxicological information:** Harmful
- **Carcinogenic categories:**

· <b>IARC (International Agency for Research on Cancer):</b>
None of the ingredients are listed.
· <b>NTP (National Toxicology Program):</b>
None of the ingredients are listed.
· <b>OSHA-Ca (Occupational Safety &amp; Health Administration):</b>
None of the ingredients are listed.

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Reviewed on 10/07/2016

**Trade Name: Fragmentation Buffer**

**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:**  
Observe all federal, state and local environmental regulations when disposing of this material.
- **Uncleaned packaging**
- **Recommendation:** Disposal must be made according to official regulations.

**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:**
- **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.

**Safety Data Sheet (SDS)**

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

Issue date 08/21/2018

Reviewed on 10/07/2016

**Trade Name: Fragmentation Buffer**

<ul style="list-style-type: none"> <li>• <b>TSCA (Toxic Substances Control Act):</b></li> </ul>
Proprietary
Proprietary
Proprietary
Proprietary
<ul style="list-style-type: none"> <li>• <b>California Proposition 65:</b></li> </ul>
<ul style="list-style-type: none"> <li>• <b>Chemicals known to cause cancer:</b></li> </ul>
None of the ingredients are listed.
<ul style="list-style-type: none"> <li>• <b>Chemicals known to cause reproductive toxicity for females:</b></li> </ul>
None of the ingredients are listed.
<ul style="list-style-type: none"> <li>• <b>Chemicals known to cause reproductive toxicity for males:</b></li> </ul>
None of the ingredients are listed.
<ul style="list-style-type: none"> <li>• <b>Chemicals known to cause developmental toxicity:</b></li> </ul>
None of the ingredients are listed.
<ul style="list-style-type: none"> <li>• <b>New Jersey Right-to-Know List:</b></li> </ul>
None of the ingredients are listed.
<ul style="list-style-type: none"> <li>• <b>New Jersey Special Hazardous Substance List:</b></li> </ul>
None of the ingredients are listed.
<ul style="list-style-type: none"> <li>• <b>Pennsylvania Right-to-Know List:</b></li> </ul>
None of the ingredients are listed.
<ul style="list-style-type: none"> <li>• <b>Pennsylvania Special Hazardous Substance List:</b></li> </ul>
None of the ingredients are listed.
<ul style="list-style-type: none"> <li>• <b>Carcinogenic categories:</b></li> </ul>
<ul style="list-style-type: none"> <li>• <b>EPA (Environmental Protection Agency):</b></li> </ul>
None of the ingredients are listed.
<ul style="list-style-type: none"> <li>• <b>TLV (Threshold Limit Value established by ACGIH):</b></li> </ul>
None of the ingredients are listed.
<ul style="list-style-type: none"> <li>• <b>NIOSH-Ca (National Institute for Occupational Safety and Health):</b></li> </ul>
None of the ingredients are listed.

- **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**



GHS07

- **Signal word:** Warning
- **Hazard-determining components of labeling:**  
Proprietary
- **Hazard statements:**  
H302 Harmful if swallowed.  
H315 Causes skin irritation.

## Safety Data Sheet (SDS)

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

Issue date 08/21/2018

Reviewed on 10/07/2016

**Trade Name: Fragmentation Buffer**

· **Precautionary statements:**

- P264 Wash thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P280 Wear protective gloves.
- P301+P312 If swallowed: Call a poison center/doctor if you feel unwell.
- P330 Rinse mouth.
- P302+P352 If on skin: Wash with plenty of water.
- P321 Specific treatment (see supplementary first aid instructions on this Safety Data Sheet).
- P332+P313 If skin irritation occurs: Get medical advice/attention.
- P362+P364 Take off contaminated clothing and wash it before reuse.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **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)
- HMSIS: Hazardous Materials Identification System (USA)
- 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 Tox. 2: Acute toxicity – Category 2
- Acute Tox. 4: Acute toxicity – Category 4
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Irrit. 2B: Serious eye damage/eye irritation – Category 2B
- STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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

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**Safety Data Sheet (SDS)**

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

Issue date 08/21/2018

Reviewed on 10/07/2016

**1 Identification**

- **Product Identifier**
- **Trade Name: Ligation Buffer**
- **Product Number:** 2000092
- **Relevant identified uses of the substance or mixture and uses advised against:**
- **Product Description:** Scientific reagent
- **Details of the Supplier of the Safety Data Sheet:**
- **Manufacturer/Supplier:**  
10X Genomics  
7068 Koll Center Parkway  
Suite 401  
Pleasanton, CA 94566  
1 925 401 7300
- **Emergency telephone number:** 1 925 401 7300

**2 Hazard(s) Identification**

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



Eye Irrit. 2A H319 Causes serious eye irritation.

- **Label elements:**
- **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**



GHS07

- **Signal word:** Warning
- **Hazard statements:**  
H319 Causes serious eye irritation.
- **Precautionary statements:**  
P264 Wash thoroughly after handling.  
P280 Wear eye protection / face protection.  
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337+P313 If eye irritation persists: Get medical advice/attention.
- **Unknown acute toxicity:**  
0 % of the mixture consists of component(s) of unknown toxicity.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



Health = 2  
Fire = 1  
Reactivity = 0

## Safety Data Sheet (SDS)

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

Issue date 08/21/2018

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**Trade Name: Ligation Buffer**

· **HMS-ratings (scale 0 - 4)**

HEALTH	2	Health = 2
FIRE	1	Fire = 1
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	☠ Eye Irrit. 2A, H319	25%
Proprietary	☠ Skin Irrit. 2, H315; STOT SE 3, H335; Eye Irrit. 2B, H320	5%

· **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. Trade secret made in accordance with paragraph (i) of §1910.1200 of 29 CFR 1910.1200, the OSHA Hazard Communication Standard and U.S. Code of Federal Regulations.

### 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:** Generally the product does not irritate the skin.
- **After eye contact:** Rinse opened eye for several minutes under running water.
- **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:** 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:**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** 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.

**Safety Data Sheet (SDS)**

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

Issue date 08/21/2018

Reviewed on 10/07/2016

**Trade Name: Ligation Buffer**

See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

**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:** Store in the original container.
- **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:** Does not apply.
- **Control parameters:**

• <b>Components with occupational exposure limits:</b>	
<b>Proprietary</b>	
WEEL	Long-term value: 10 mg/m <sup>3</sup> (H); MW>200

- **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:**



Protective gloves

- **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:**

<b>Form:</b>	Liquid
<b>Color:</b>	Colorless
<b>Odour:</b>	Odorless
<b>Odor threshold:</b>	Not determined.
<b>pH-value:</b>	Not determined.
- **Change in condition**

<b>Melting point/Melting range:</b>	Not determined.
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**Safety Data Sheet (SDS)**

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

Issue date 08/21/2018

Reviewed on 10/07/2016

**Trade Name: Ligation Buffer**

- Boiling point/Boiling range:** 220 °C (428 °F)
- **Flash point:** 114 °C (237.2 °F)
- **Flammability (solid, gaseous):** Not applicable.
- **Ignition temperature:** 305 °C (581 °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:** Not miscible or difficult to mix.
- **Partition coefficient (n-octanol/water):** Not determined.
- **Viscosity:**
  - Dynamic:** Not determined.
  - Kinematic:** Not determined.
- **Solvent content:**
  - Organic solvents:** 0.0 %
  - Solids content:** 30.0 %
- **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:**

· <b>LD/LC50 values that are relevant for classification:</b>		
<b>Proprietary</b>		
Oral	LD50	>5000 mg/kg (Rat)
Dermal	LD50	>5000 mg/kg (Rabbit)

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**Safety Data Sheet (SDS)**

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

Issue date 08/21/2018

Reviewed on 10/07/2016

**Trade Name: Ligation Buffer**

<b>Proprietary</b>		
Oral	LD50	5900 mg/kg (Rat)
Dermal	LD50	500 mg/kg (Rabbit)

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

• <b>IARC (International Agency for Research on Cancer):</b>
None of the ingredients are listed.

• <b>NTP (National Toxicology Program):</b>
None of the ingredients are listed.

• <b>OSHA-Ca (Occupational Safety &amp; Health Administration):</b>
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:** Not known to be hazardous to water.
- **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.
- **Uncleaned packaging**
- **Recommendation:** Disposal must be made according to official regulations.

**14 Transport Information**

- **UN-Number:**
- **DOT, ADN, IMDG, IATA** Non-Regulated Material
- **ADR/ADN** Non-Regulated Material
- **UN proper shipping name:** Not Regulated
- **DOT, ADR/ADN, ADN, IMDG, IATA** Non-Regulated Material

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## Safety Data Sheet (SDS)

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

Issue date 08/21/2018

Reviewed on 10/07/2016

**Trade Name: Ligation Buffer**

- **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:**
- **SARA (Superfund Amendments and Reauthorization):**

<ul style="list-style-type: none"> <li>· <b>Section 355 (extremely hazardous substances):</b></li> </ul>
None of the ingredients are listed.

<ul style="list-style-type: none"> <li>· <b>Section 313 (Specific toxic chemical listings):</b></li> </ul>
None of the ingredients are listed.

<ul style="list-style-type: none"> <li>· <b>TSCA (Toxic Substances Control Act):</b></li> </ul>
All ingredients are listed or exempt from listing.

<ul style="list-style-type: none"> <li>· <b>California Proposition 65:</b></li> <li>· <b>Chemicals known to cause cancer:</b></li> </ul>
None of the ingredients are listed.

<ul style="list-style-type: none"> <li>· <b>Chemicals known to cause reproductive toxicity for females:</b></li> </ul>
None of the ingredients are listed.

<ul style="list-style-type: none"> <li>· <b>Chemicals known to cause reproductive toxicity for males:</b></li> </ul>
None of the ingredients are listed.

<ul style="list-style-type: none"> <li>· <b>Chemicals known to cause developmental toxicity:</b></li> </ul>
None of the ingredients are listed.

<ul style="list-style-type: none"> <li>· <b>Carcinogenic categories:</b></li> <li>· <b>EPA (Environmental Protection Agency):</b></li> </ul>
None of the ingredients are listed.

<ul style="list-style-type: none"> <li>· <b>TLV (Threshold Limit Value established by ACGIH):</b></li> </ul>
None of the ingredients are listed.

<ul style="list-style-type: none"> <li>· <b>NIOSH-Ca (National Institute for Occupational Safety and Health):</b></li> </ul>
None of the ingredients are listed.

- **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**



GHS07

- **Signal word:** Warning

## Safety Data Sheet (SDS)

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

Issue date 08/21/2018

Reviewed on 10/07/2016

**Trade Name: Ligation Buffer**

• **Hazard statements:**

H319 Causes serious eye irritation.

• **Precautionary statements:**

P264 Wash thoroughly after handling.

P280 Wear eye protection / face protection.

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

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

• **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 / 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

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)

HMS: 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

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Eye Irrit. 2B: Serious eye damage/eye irritation – Category 2B

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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

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**Safety Data Sheet (SDS)**

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

Issue date 01/31/2017

Reviewed on 01/31/2017

**\* 1 Identification**

- **Product Identifier**
- **Trade name: DNA Ligase**
- **Product Number:**  
220049  
220098  
220110  
220118  
220131
- **Relevant identified uses of the substance or mixture and uses advised against:**
- **Product Description** Scientific reagent
- **Details of the Supplier of the Safety Data Sheet:**
- **Manufacturer/Supplier:**  
10X Genomics  
7068 Koll Center Parkway  
Suite 401  
Pleasanton, CA 94566  
1 925 401 7300
- **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:**  
0 % of the mixture consists of component(s) of unknown toxicity.
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



- **HMS-ratings (scale 0 - 4)**
- **HEALTH 0** Health = 0
- **FIRE 1** Fire = 1
- **REACTIVITY 0** Reactivity = 0
- **Hazard(s) not otherwise classified (HNOC):** None known

**3 Composition/Information on Ingredients**

· <b>Non-hazardous components:</b>	
Proprietary	75%

- **Chemical characterization: Mixtures**
- **Description:** Mixture of substances listed below with non-hazardous additions.
- **Dangerous Components:** Non-Regulated Material



## Safety Data Sheet (SDS)

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

Issue date 01/31/2017

Reviewed on 01/31/2017

**Trade name: DNA Ligase**

· **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.

Trade secret made in accordance with paragraph (i) of §1910.1200 of 29 CFR 1910.1200, the OSHA Hazard Communication Standard and U.S. Code of Federal Regulations.

### 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:** Generally the product does not irritate the skin.

· **After eye contact:** Rinse opened eye for several minutes under running water.

· **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:** Use fire fighting measures that suit the environment.

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

· **Advice for firefighters:**

· **Protective equipment:**

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:**

Wear protective equipment. Keep unprotected persons away.

· **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.

### 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:** Store in the original container.

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** None.

## Safety Data Sheet (SDS)

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

Issue date 01/31/2017

Reviewed on 01/31/2017

**Trade name: DNA Ligase**

- **Specific end use(s):** No further relevant information available.

### 8 Exposure Controls/Personal Protection

- **Additional information about design of technical systems:** Does not apply.
- **Control parameters:**
- **Components with occupational exposure limits:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **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:**



Protective gloves

- **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
  - **Odor:** Odorless
  - **Odor threshold:** Not determined.
  - **pH-value:** Not determined.
- **Change in condition**
  - **Melting point/Melting range:** Not determined.
  - **Boiling point/Boiling range:** 290 °C (554 °F)
  - **Flash point:** 160 °C (320 °F)
  - **Flammability (solid, gaseous):** Not applicable.
  - **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:** 0.9 Vol %
    - **Upper:** Not determined.

(Contd. on page 4)

## Safety Data Sheet (SDS)

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

Issue date 01/31/2017

Reviewed on 01/31/2017

**Trade name: DNA Ligase**

- **Vapor pressure @ 20 °C (68 °F):** 0.1 hPa
- **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:** 75.0 %
- **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:**
- **Primary irritant effect:**
- **On the skin:** No irritating effect.
- **On the eye:** No irritating effect.
- **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:**

· <b>IARC (International Agency for Research on Cancer):</b>
None of the ingredients are listed.

· <b>NTP (National Toxicology Program):</b>
None of the ingredients are listed.

· <b>OSHA-Ca (Occupational Safety &amp; Health Administration):</b>
None of the ingredients are listed.

### 12 Ecological Information

- **Toxicity:**
- **Aquatic toxicity:** No further relevant information available.

## Safety Data Sheet (SDS)

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

Issue date 01/31/2017

Reviewed on 01/31/2017

**Trade name: DNA Ligase**

- **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:** Not known to be hazardous to water.
- **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.
- **Uncleaned packagings**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

### 14 Transport Information

- **UN-Number:**
- **DOT, ADN, IMDG, IATA** Non-Regulated Material
- **ADR/ADN** 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** Non-Regulated Material
- **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:**
- **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.

## Safety Data Sheet (SDS)

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

Issue date 01/31/2017

Reviewed on 01/31/2017

**Trade name: DNA Ligase**

· **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.

· **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

· **Signal word:** Non-Regulated Material

· **Hazard statements:** Non-Regulated Material

· **National regulations:**

The product is subject to be classified according with the latest 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.

· **Date of preparation / last revision:** 01/31/2017 / 7

· **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)
- HMSI: Hazardous Materials Identification System (USA)
- 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

**Safety Data Sheet (SDS)**

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

Issue date 01/31/2017

Reviewed on 01/31/2017

**Trade name: DNA Ligase**

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

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**Safety Data Sheet (SDS)**

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

Issue date 08/21/2018

Reviewed on 05/25/2016

**\* 1 Identification**

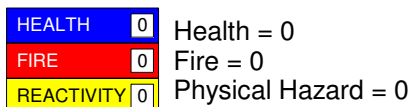
- **Product Identifier**
- **Trade Name: Adaptor Oligos**
- **Product Number:** 2000094
- **Relevant identified uses of the substance or mixture and uses advised against:**
- **Product Description:** No further relevant information
- **Details of the Supplier of the Safety Data Sheet:**
- **Manufacturer/Supplier:**  
10X Genomics  
7068 Koll Center Parkway  
Suite 401  
Pleasanton, CA 94566  
1 925 401 7300
- **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
- **Classification system:**
- **NFPA ratings (scale 0 - 4)**



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



- **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:** Non-Regulated Material
- **Additional information:**  
Trade secret made in accordance with paragraph (i) of §1910.1200 of 29 CFR 1910.1200, the OSHA Hazard Communication Standard and U.S. Code of Federal Regulations.

**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:** Generally the product does not irritate the skin.

## Safety Data Sheet (SDS)

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

Issue date 08/21/2018

Reviewed on 05/25/2016

### Trade Name: Adaptor Oligos

- **After eye contact:** Rinse opened eye for several minutes under running water.
- **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:**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:** No special measures required.
- **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.

### 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:** Store in the original container.
- **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:** Does not apply.
- **Control parameters:**
- **Components with occupational exposure limits:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation of this SDS were used as basis.  
(Contd. on page 3)



## Safety Data Sheet (SDS)

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

Issue date 08/21/2018

Reviewed on 05/25/2016

**Trade Name: Adaptor Oligos**

- **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:**



Protective gloves

- **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 determined.
- **Change in condition**
  - Melting point/Melting range:** Not determined.
  - Boiling point/Boiling range:** Not determined.
- **Flash point:** None
- **Flammability (solid, gaseous):** 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:**
  - 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.

(Contd. on page 4)

## Safety Data Sheet (SDS)

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

Issue date 08/21/2018

Reviewed on 05/25/2016

**Trade Name: Adaptor Oligos**

- Kinematic:** Not determined.
- **Solvent content:**
  - Organic solvents:** 0.0 %
  - Solids content:** 0.2 %
- **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:** No data available.
- **Primary irritant effect:**
- **On the skin:** No irritating effect.
- **On the eye:** No irritating effect.
- **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:**

• <b>IARC (International Agency for Research on Cancer):</b>
None of the ingredients are listed.
• <b>NTP (National Toxicology Program):</b>
None of the ingredients are listed.
• <b>OSHA-Ca (Occupational Safety &amp; Health Administration):</b>
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:** Generally not hazardous for water.
- **Results of PBT and vPvB assessment:**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

(Contd. on page 5)

**Safety Data Sheet (SDS)**

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

Issue date 08/21/2018

Reviewed on 05/25/2016

**Trade Name: Adaptor Oligos**

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

**13 Disposal Considerations**

- **Waste treatment methods**
- **Recommendation:** Smaller quantities can be disposed of with household waste.
- **Uncleaned packaging**
- **Recommendation:** Disposal must be made according to official regulations.

**14 Transport Information**

- **UN-Number:**
- **DOT, ADN, IMDG, IATA** Non-Regulated Material
- **ADR/ADN** Non-Regulated Material  
Not Regulated
- **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.
- **Transport/Additional information:**
- **DOT**
- **Quantity limitations:** On passenger aircraft/rail: N/A  
On cargo aircraft only: N/A
- **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):**  
Proprietary

- **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.

## Safety Data Sheet (SDS)

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

Issue date 08/21/2018

Reviewed on 05/25/2016

**Trade Name: Adaptor Oligos**

<ul style="list-style-type: none"> <li>· <b>Chemicals known to cause developmental toxicity:</b></li> </ul>
None of the ingredients are listed.
<ul style="list-style-type: none"> <li>· <b>Carcinogenic categories:</b></li> </ul>
<ul style="list-style-type: none"> <li>· <b>EPA (Environmental Protection Agency):</b></li> </ul>
None of the ingredients are listed.
<ul style="list-style-type: none"> <li>· <b>TLV (Threshold Limit Value established by ACGIH):</b></li> </ul>
None of the ingredients are listed.
<ul style="list-style-type: none"> <li>· <b>NIOSH-Ca (National Institute for Occupational Safety and Health):</b></li> </ul>
None of the ingredients are listed.
<ul style="list-style-type: none"> <li>· <b>GHS label elements</b> Non-Regulated Material</li> <li>· <b>Hazard pictograms:</b> Non-Regulated Material</li> <li>· <b>Signal word:</b> Non-Regulated Material</li> <li>· <b>Hazard statements:</b> Non-Regulated Material</li> </ul>
<ul style="list-style-type: none"> <li>· <b>National regulations:</b></li> </ul>
None of the ingredients are listed.
<ul style="list-style-type: none"> <li>· <b>Chemical safety assessment:</b> A Chemical Safety Assessment has not been carried out.</li> </ul>

**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 / 4
  - **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)  
 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.**
- SDS created by MSDS Authoring Services    [www.msdsauthoring.com](http://www.msdsauthoring.com)    +1-877-204-9106

**Safety Data Sheet (SDS)**

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

Issue date 08/20/2018

Reviewed on 08/20/2018

**1 Identification**

- **Product Identifier**
- **Trade Name: Amp Mix**  
**Amp Mix**
- **Product Number:**  
2000047  
2000103
- **Relevant identified uses of the substance or mixture and uses advised against:**
- **Product Description:** No Further Information
- **Application of the substance / the mixture:** Industry Specific Application
- **Details of the Supplier of the Safety Data Sheet:**
- **Manufacturer/Supplier:**  
10X Genomics  
7068 Koll Center Parkway  
Suite 401  
Pleasanton, CA 94566  
1 925 401 7300
- **Emergency telephone number:** 1 925 401 7300

**2 Hazard(s) Identification**

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



Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2B H320 Causes eye irritation.

- **Label elements:**
- **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**



GHS07

- **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.

(Contd. on page 2)

**Safety Data Sheet (SDS)**

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

Issue date 08/20/2018

Reviewed on 08/20/2018

**Trade Name: Amp Mix**  
**Amp Mix**

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)**



- **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:**

CAS: 56-81-5 RTECS: MA 8050000	Glycerol	1-10%
CAS: 9016-45-9	Nonylphenoxypoly(ethyleneoxy)ethanol ⚠ Skin Irrit. 2, H315; Eye Irrit. 2A, H319	Proprietary%
CAS: 7664-93-9	Sulfuric acid ⚠ Skin Corr. 1A, H314	Proprietary%

• **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 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.

(Contd. on page 3)

## Safety Data Sheet (SDS)

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

Issue date 08/20/2018

Reviewed on 08/20/2018

**Trade Name: Amp Mix**  
**Amp Mix**

### 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.  
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:**

56-81-5	Glycerol	45 mg/m <sup>3</sup>
9016-45-9	Nonylphenoxy poly(ethyleneoxy) ethanol	43 mg/m <sup>3</sup>
7664-93-9	Sulfuric acid	0.20 mg/m <sup>3</sup>

• **PAC-2:**

56-81-5	Glycerol	180 mg/m <sup>3</sup>
9016-45-9	Nonylphenoxy poly(ethyleneoxy) ethanol	470 mg/m <sup>3</sup>
7664-93-9	Sulfuric acid	8.7 mg/m <sup>3</sup>

• **PAC-3:**

56-81-5	Glycerol	1,100 mg/m <sup>3</sup>
9016-45-9	Nonylphenoxy poly(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.

(Contd. on page 4)

**Safety Data Sheet (SDS)**

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

Issue date 08/20/2018

Reviewed on 08/20/2018

**Trade Name: Amp Mix**  
**Amp Mix**

- **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:**  
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 constituent has no known exposure limits.

<b>56-81-5 Glycerol</b>	
PEL	Long-term value: 15* 5** mg/m <sup>3</sup> mist; *total dust **respirable fraction
TLV	TLV withdrawn-insufficient data human occup. exp.
<b>7664-93-9 Sulfuric acid</b>	
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

- **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

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Select glove material based on penetration times, rates of diffusion and degradation.

- **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



**Safety Data Sheet (SDS)**

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

Issue date 08/20/2018

Reviewed on 08/20/2018

**Trade Name: Amp Mix**  
**Amp Mix**

**9 Physical and Chemical Properties**

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**
  - **Form:** Liquid
  - **Color:** Clear, colorless
- **Odour:** Odorless
- **Odor threshold:** Not determined.
- **pH-value:** Not applicable.
- **Change in condition**
  - **Melting point/Melting range:** Not determined.
  - **Boiling point/Boiling 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:**
  - **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:**

#### 56-81-5 Glycerol

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 Nonylphenoxy poly(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	3
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- **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 Nonylphenoxy poly(ethyleneoxy) ethanol

EC50	12 mg/l (Algae - <i>Selenastrum capricornutum</i> ) (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 MARPOL 73/78 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):**

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

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• **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.

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· <b>Chemicals known to cause reproductive toxicity for females:</b>		
None of the ingredients are listed.		
· <b>Chemicals known to cause reproductive toxicity for males:</b>		
None of the ingredients are listed.		
· <b>Chemicals known to cause developmental toxicity:</b>		
None of the ingredients are listed.		
· <b>New Jersey Right-to-Know List:</b>		
56-81-5	Glycerol	
7664-93-9	Sulfuric acid	
· <b>New Jersey Special Hazardous Substance List:</b>		
7664-93-9	Sulfuric acid	CA, CO, R2
· <b>Pennsylvania Right-to-Know List:</b>		
56-81-5	Glycerol	
7664-93-9	Sulfuric acid	
· <b>Pennsylvania Special Hazardous Substance List:</b>		
7664-93-9	Sulfuric acid	E
· <b>Carcinogenic categories:</b>		
· <b>EPA (Environmental Protection Agency):</b>		
None of the ingredients are listed.		
· <b>TLV (Threshold Limit Value established by ACGIH):</b>		
7664-93-9	Sulfuric acid	A2
· <b>NIOSH-Ca (National Institute for Occupational Safety and Health):</b>		
None of the ingredients are listed.		

- **GHS label elements**  
The product is classified and labeled according to the Globally Harmonized System (GHS).
- **Hazard pictograms:**



GHS07

- **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.

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• **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:** 08/20/2018 / 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)
- VOC: Volatile Organic Compounds (USA, EU)
- 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
- Skin Corr. 1A: Skin corrosion/irritation – Category 1A
- Skin Irrit. 2: Skin corrosion/irritation – Category 2
- Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
- Eye Irrit. 2B: Serious eye damage/eye irritation – Category 2B

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

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