

# SAFETY DATA SHEET

## Ligation Enhancer

Version: 3.0

Revision Date: 06/12/2024

Date of last issue: 06/12/2024

### 1. Identification

#### 1.1 Product identifier

Product name: PCR Enzyme Mix

Product number: 1000005204, 1000005203, 530-002779-00, 530-002780-00

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended restrictions: For research users only.

#### 1.3. Details of the supplier of the safety data sheet

<b>Company</b>	Complete Genomics, Inc.
<b>Address</b>	2904 Orchard Parkway San Jose, CA 95134
<b>Web</b>	www.completegenomics.com
<b>E-mail</b>	US-CustomerService@completegenomics.com
<b>TEL.</b>	+1 (888) 811-9644

#### 1.4. Emergency telephone

<b>Emergency phone number</b>	800-424-9300 CHEMTREC(USA)
	+1-703-527-3887 CHEMTREC(International)
	24 Hours/day;7 Days/week

### 2. Hazard(s) identification

#### 2.1 Classification of the substance or mixture

Acute Toxicity - Oral	Category 4
Skin corrosion/irritation	Category 2
Specific target organ toxicity - single exposure	Category 1
Harm to water environment - chronic	Category 2

#### 2.2 Label elements

##### Labelling

**Hazard pictograms:**



**Signal word:** Warning

##### **Hazard statements:**

H302: Harmful if swallowed.

H315: Causes skin irritation.

H370: Causes damage to organs.

H412: Harmful to aquatic life with long lasting effects.

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### Precautionary statements:

#### Prevention:

P260: Do not breathe dust/fume/gas/mist/vapors/spray.

P264: Wash thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P273: Avoid release to the environment.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

#### Response:

P301+P310: IF SWALLOWED: Immediately call a POISON CENTER/doctor/...

P302+P352: IF ON SKIN: wash with plenty of water.

P332+P313: IF SKIN irritation occurs: Get medical advice/attention.

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

#### Storage:

P405: Store locked up.

#### Disposal:

P501: Dispose of contents/container to manufacturer or supplier for information on recovery or recycling.

### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

## 3. Composition/information on ingredients

This product contains the following hazards within the meaning of the relevant state and federal Hazardous substances regulations.

Product Name: PCR Enzyme Mix				
ingredient	CAS-No.	EC No.	Concentration (% w/w)	Classification
Water	7732-18-5	231-791-2	89%-98.9%	Not- Classified
Tetramethylamm onium chloride	75-57-0	200-880-8	1%-10%	Acute Toxicity - Oral Category 2 Acute toxicity - percutaneous Category 3 Skin corrosion/irritation Category 2 Specific target organ toxicity - single exposure Category 1 Harm to water environment - chronic Category 2
Water	7732-18-5	-	< 1%	Not- Classified

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

\*PBT/vPvB - PBT-substance or vPvB-substance.

The full texts of the phrases are shown in Section 16.

## Section 4. First aid measures

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### 4.1 Description of first aid measures

General advice	Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician if feel uncomfortable.
Skin contact	Take off contaminated clothing and shoes immediately. Wash off with plenty of soap and water for at least 15 minutes and consult a physician if feel uncomfortable.
Ingestion	Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or Poison Control Center immediately.
Inhalation	Move victim into fresh air. If breathing is difficult, give oxygen. Do not use mouth to mouth resuscitation if victim ingested or inhaled the substance. If not breathing, give artificial respiration and consult a physician immediately.
Protecting of first-aiders	Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

### 4.2 Most important symptoms and effects, both acute and delayed

Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

### 4.3 Indication of any immediate medical attention and special treatment needed

- 1.Treat symptomatically.
- 2.Symptoms may be delayed.

## Section 5. Fire-fighting measures

### 5.1. Extinguishing media

Recommended extinguishing media; alcohol resistant foam, CO2, powder, water spray.

Unsuitable extinguishing media: Do not use; water jet.

### 5.2. Special hazards arising from the substance or mixture

Hazardous decomposition: No hazardous decomposition data available.

Keep away from heat, sparks, open flames, and other ignition sources - No smoking.

Keep container tightly closed.

Keep cool.

Ground, bond container and receiving equipment.

Use explosion-proof electrical, ventilating, light, equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Avoid breathing dust, fume, gas, mist, vapors, spray.

### 5.3. Advice for fire-fighters

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As with all fires, wear positive pressure, self-contained breathing apparatus, (SCBA) with a full face piece and protective clothing. Persons without respiratory protection should leave area. Wear SCBA during clean-up immediately after fire. No smoking.

**ERG Guide No. 128**

### Section 6. Accidental release measures

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

1. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
2. Do not touch or walk through spilled material.
3. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
4. Ensure adequate ventilation. Remove all sources of ignition.
5. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
6. Use personal protective equipment. Avoid breathing vapours, mist or gas.

#### 6.2 Environmental precautions

1. Prevent product from entering drains.
2. Prevent further leakage or spillage if safe to do so.
3. If there is pollution in the sewer or waterway, please report to the local authorities.

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

*a lot of leaks:*

- Use an inert absorbent material such as sand or soil to absorb spillage.
- Collect spilled product and place it in a sealable container or bucket for disposal.
- Clean contaminated areas and objects with plenty of water and detergent.

*Small amount of leakage:*

- Absorbing materials such as sand or soil absorb spillage.
- Collect spilled product and place it in a sealable container for disposal.
- Clean contaminated areas and objects with water and detergent

#### 6.4 Reference to other sections

Treat recovered material as described in the section "Disposal considerations".

### Section 7. Handling and storage

#### 7.1. Precautions for safe handling

- Handle containers carefully to prevent damage and spillage.
- Check section 2.2 (GHS Label Elements) for further details. - [Prevention]:

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

Incompatible materials: No available information

Check section 2.2 (GHS Label Elements) for further details. - [Storage]:

### 7.3. Specific end use(s)

No available information

## Section 8. Exposure controls / personal protection

### 8.1 Occupational Exposure Limits

There are no ingredients in this product which are classified as hazardous, and/or no hazardous ingredients above the GHS cut off percentage.

### 8.2 Biological occupational exposure limits

This product has no specified occupational exposure limits for components.

### 8.3 Engineering measures

- 1.Ensure adequate ventilation, especially in confined areas.
- 2.Ensure that eyewash stations and safety showers are close to the workstation location.
- 3.Set up emergency exit and necessary risk-elimination area.
- 4.Handle in accordance with good industrial hygiene and safety practice.

### 8.4 Personal protective equipment

Respiratory protection:	In the case of vapor formation use a respirator with an ap-proved filter.
Eye protection:	Eye wash bottle with pure water Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection:	Impervious clothing Choose body protection according to the amount and con-centration of the dangerous substance at the work place.
Hand protection:	Protective gloves Use specific protective gloves for specific locations.

## Section 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Appearance and shape:	Colorless transparent liquid
odor:	No data

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pH value:	No data
Melting point / freezing point:	No data
Boiling point:	No data
Flash point:	No data
Upper explosion limit:	No data
Lower explosion limit:	No data
Vapor Pressure:	No data
Vapor density	No data
density	No data
Solubility	Soluble in water
N-octanol/water partition coefficient	No data
Auto-ignition temperature	No data
Decomposition temperature	No data

### 9.2 Other information

None data.

## Section 10. Stability and reactivity

### 10.1 Reactivity

Contact with incompatible substances can cause decomposition or other chemical reactions.

### 10.2 Chemical Stability

Stable under the recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No hazardous reactions when stored and handled within normal conditions of use.

### 10.4. Conditions to avoid

Avoid extremes of temperature and direct sunlight.

Avoid contact with incompatible materials.

### 10.5 Incompatible materials

Alkali, sodium, calcium, and other active metal, halogen, metal oxide, nonmetal oxide, acyl halide and metal phosphide.

### 10.6 Hazardous decomposition products

Oxides of carbon and nitrogen, smoke and other toxic fumes

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### Section 11. Toxicological information

#### 11.1 Acute toxicity

##### For Tetramethylammonium chloride:

LD50(oral) (Rat)	47 mg/kg
LD50(dermal) (Rat)	500 mg/kg

#### 11.2 Skin corrosion/irritation

Based on available data, the classification criteria are not met

#### 11.3 Serious eye damage/eye irritation

Based on available data, the classification criteria are not met

#### 11.4 Respiratory or skin allergies

Based on available data, the classification criteria are not met

#### 11.5 Germ cell mutagenicity

Based on available data, the classification criteria are not met

#### 11.6 Carcinogenicity

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

#### 11.7 Reproductive toxicity

Based on available data, the classification criteria are not met

#### 11.8 Specific target organ toxicity (one exposure)

Based on available data, the classification criteria are not met

#### 11.9 Specific target organ system toxicity (repeated exposure)

Based on available data, the classification criteria are not met

#### 11.10 Aspiration hazard

Based on available data, the classification criteria are not met

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### 11.11 Additional information

No data

## Section 12. Ecological information

### 12.1 Ecotoxicity

**For Tetramethylammonium chloride:**

Fish LC50 :	462mg/L/96h
Aquatic Invertebrates EC50/LC50 :	3.6 mg/L/48h
aquatic algae and cyanobacteria EC50:	30 ug/L

### 12.2. Persistence and degradability

There is no data available on the preparation itself.

### 12.3. Bioaccumulative potential

No available information

### 12.4. Mobility in soil

No available information

### 12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

### 12.6. Other adverse effects

No available information

## Section 13. Disposal considerations

### 13.1. Waste treatment methods

Waste chemicals	Before disposal should refer to the relevant national and local laws and regulation. Recommend the use of incineration disposal.
Contaminated packaging	Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible.
Disposal recommendations	Refer to section waste chemicals and contaminated packaging.

## Section 14. Transport information



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### Label and Mark

Transporting Label	No
Marine pollutant	None

### IMDG-CODE

UN number	No
UN proper shipping name	Not Restricted
Transport hazard class	No
Transport subsidiary hazard class	None
Packing group	No

### ICAO/IATA-DGR

UN number	No
UN proper shipping name	Not Restricted
Transport hazard class	No
Transport subsidiary hazard class	None
Packing group	No

### UN-ADR

UN number	No
UN proper shipping name	Not Restricted
Transport hazard class	No
Transport subsidiary hazard class	None
Packing group	No

## Section 15. Regulatory information

### 15.1 Regulatory Overview:

The regulatory data in Section 15 is not intended to be all-inclusive, only selected regulations are represented.

### 15.2 Toxic Substance Control Act ( TSCA):

All components of this material are either listed or exempt from listing on the TSCA Inventory.

### 15.3 US EPA Tier II Hazards

<b>Fire:</b>	No
<b>Sudden Release of Pressure:</b>	No
<b>Reactive:</b>	No
<b>Immediate (Acute):</b>	No
<b>Delayed (Chronic):</b>	No

**EPCRA 302 Extremely Hazardous:**

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To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

### **EPCRA 313 Toxic Chemicals:**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

### **Proposition 65 - Carcinogens (>0.0%):**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

### **Proposition 65 - Developmental Toxins (>0.0%):**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

### **Proposition 65 - Female Repro Toxins (>0.0%):**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

### **Proposition 65 - Male Repro Toxins (>0.0%):**

To the best of our knowledge, there are no chemicals at levels which require reporting under this statute.

### **Proposition 65 Label Warning:**

This product contains no chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

## Section 16. Other information

### **16.1 Abbreviations and acronyms**

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List  
 EINECS/ELINCS - European INventory of Existing Commercial chemical Substances/European LIst of Notified Chemical Substances  
 ENCS - Japanese Existing and New Chemical Substances  
 IECSC - Chinese Inventory of Existing Chemical Substances  
 KECL - Korea Existing Chemicals List  
 PICCS - The Philippine Inventory of Chemicals and Chemical Substances  
 AICS - The Australian Inventory of Chemical Substances  
 LD50 - Median lethal dose i.e. Lethal Dose, 50%  
 LC50 - Lethal concentration 50%  
 UNRTDG - UN Recommendations on the Transport of Dangerous Goods  
 IMDG - International Maritime Dangerous Goods  
 IATA - The International Air Transport Association (The latest edition).

### **16.2 Key literature references and sources for data**

ECHA: <http://echa.europa.eu/>  
 IFA GESTIS: [http://gestis-en.itrust.de/nxt/gateway.dll?f=templates\\$fn=default.htm\\$vid=gestiseng:sdbeng](http://gestis-en.itrust.de/nxt/gateway.dll?f=templates$fn=default.htm$vid=gestiseng:sdbeng)  
 eChemPortal: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)  
 HSDB: <http://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>  
 ICSC: <http://www.ilo.org/dyn/icsc/showcard.home>  
 NITE-CHRIP: [http://www.nite.go.jp/en/chem/chrip/chrip\\_search/srhInput](http://www.nite.go.jp/en/chem/chrip/chrip_search/srhInput)

### **16.3 Full text of H-Statements:**

NO data.

### **16.4 Training advice**

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NO data.

### 16.5 Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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