

**Product identifier**

**Product Name** HiFi prep kit 96  
**Recommended use** See product insert

**Other means of identification**

**Product Code(s)** 103-122-600

This product is a kit box containing 8 reagent tubes

Chemical name	Part number	Quantity	Cap color	Classification
Repair buffer 96	103-285-200	1	Purple	Not a hazardous material
End repair mix 96	103-285-300	1	Blue	Not a hazardous material
DNA repair mix 96	103-285-400	1	Green	Not a hazardous material
Ligation mix 96	103-285-500	2	Yellow	Not a hazardous material
Ligation enhancer 96	103-285-600	1	Red	Not a hazardous material
Nuclease buffer 96	103-285-700	1	Light Purple	Not a hazardous material
Nuclease mix 96	103-285-800	1	Light green	Not a hazardous material

\*Hazard classifications provided in the table are in accordance with UN Globally Harmonized System of Classification and Labelling of Chemicals. Country specific regulations may differ. Refer to the SDS for individual components for your country specific information.



# SAFETY DATA SHEET

This safety data sheet complies with the requirements of:  
JIS Z 7252:2019; JIS Z 7253:2019

Revision date 08-Apr-2024  
Revision Number 1

## 1. Identification

**Product Name** Repair buffer 96  
**Registration Number(s)** No information available

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

#### **Manufacturer**

PacBio  
1305 O'Brien Drive  
Menlo Park, CA 94025  
USA  
www.pacb.com

**Emergency telephone number** CHEMTREC 1-800-424-9300 (CCN#656805)

**E-mail address** techsupport@pacb.com

### Recommended use of the chemical and restrictions on use

**Recommended use** As part of kit.

**Restrictions on use** For research use only

## 2. Hazard(s) identification

### GHS Classification

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Classification not possible
Acute toxicity - Dermal	Classification not possible
Acute toxicity - Inhalation (Gases)	Classification not applicable
Acute toxicity - Inhalation (Vapors)	Classification not possible
Acute toxicity - Inhalation (Dusts/Mists)	Classification not possible
Skin corrosion/irritation	Classification not possible
Serious eye damage/eye irritation	Classification not possible
Respiratory sensitization	Classification not possible
Skin sensitization	Classification not possible
Germ cell mutagenicity	Classification not possible
Carcinogenicity	Classification not possible
Reproductive toxicity	Classification not possible
Effects on or via lactation	Classification not possible
Specific target organ toxicity (single exposure)	Classification not possible
Specific target organ toxicity (repeated exposure)	Classification not possible
Aspiration hazard	Classification not possible
Acute aquatic toxicity	Classification not possible
Chronic aquatic toxicity	Not classified
Hazardous to the ozone layer	Classification not possible

### GHS label elements

#### **Hazard statements**

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

#### **Prevention**

- Not applicable

#### **Response**

• Not applicable

**Storage**

• Not applicable

**Disposal**

• Not applicable

**Other hazards**

No information available.

**3. Composition/information on ingredients**

Pure substance/mixture	Mixture					
Chemical name	CAS No.	Weight-%	ENCS Inventory	ENCS Number	ISHL Inventory	ISHL No.
Magnesium chloride	7786-30-3	0 - 10%	Existing	(1)-233	Existing	(1)-233,(1)-244

**Pollutant Release and Transfer Register (PRTR)**

Not applicable

**Industrial Safety and Health Law**ISHL Notifiable Substances

Not applicable

Harmful Substances Whose Names Are to be Indicated on the Label

Not applicable

**Poisonous and Deleterious Substances Control Law**

Not applicable

**4. First-aid measures**

<b>In case of inhalation</b>	Remove to fresh air.
<b>In case of skin contact</b>	Wash skin with soap and water.
<b>In case of eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>In case of ingestion</b>	Rinse mouth.
<b>Most important symptoms/effects, acute and delayed</b>	No information available.
<b>Note to physicians</b>	Treat symptomatically.

**5. Fire-fighting measures**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Specific hazards arising from the chemical</b>	No information available.
<b>Special Extinguishing Media</b>	Cool drums with water spray.

<b>Special protective equipment and precautions for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
<b>Other information</b>	CAUTION: Use of water spray when fighting fire may be inefficient.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Ensure adequate ventilation.
<b>For emergency responders</b>	Use personal protection recommended in Section 8.
<b>Environmental precautions</b>	See Section 12 for additional Ecological Information.
<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. Handling and storage

### Handling

<b>Advice on safe handling</b>	Handle in accordance with good industrial hygiene and safety practice.
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### Storage

<b>Storage Conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.
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## 8. Exposure controls/personal protection

<b>Exposure guidelines</b>	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
<b>Biological monitoring indicator</b>	This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies
<b>Engineering controls</b>	Showers Eyewash stations Ventilation systems.
<b>Environmental exposure controls</b>	No information available.
<b><u>Personal protective equipment</u></b> <b>Respiratory protection</b>	Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
<b>Hand protection</b>	Appropriate hand protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.
<b>Eye/face protection</b>	Appropriate eye/face protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.
<b>Skin and body protection</b>	Appropriate skin and body protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.

## 9. Physical and chemical properties

**Information on basic physical and chemical properties**

<b>Appearance</b>	Liquid
Physical state	Liquid
Color	clear colorless
<b>Odor</b>	Odorless
<b>Odor threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Melting point / freezing point</b>		No information available
<b>Initial boiling point and boiling range</b>		No information available
<b>Upper/lower flammability or explosive limits</b>		No information available
Upper flammability or explosive limits		
Lower flammability or explosive limits		
<b>Flash point</b>		No information available
<b>Evaporation rate</b>		No information available
<b>Autoignition temperature</b>		No information available
<b>Decomposition temperature</b>		No information available
<b>pH</b>	7 - 8.5	No information available
<b>Viscosity</b>		
<b>Water solubility</b>		No information available
<b>Solubility(ies)</b>		No information available
<b>Partition Coefficient (n-octanol/water)</b>		No information available
<b>Vapor pressure</b>		No information available
<b>Density and/or relative density</b>		
Relative density		No information available

**Other information**

<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available

**10. Stability and reactivity**

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Conditions to avoid</b>	No information available.
<b>Incompatible materials</b>	None known based on information supplied.
<b>Hazardous decomposition products</b>	None known based on information supplied.

**11. Toxicological information****Acute toxicity****Numerical measures of toxicity - Product Information**

The following values are calculated based on chapter 3.1 of the GHS document

<b>ATEmix (oral)</b>	83,066.70 mg/kg
<b>ATEmix (dermal)</b>	59,333.30 mg/kg
<b>ATEmix (inhalation-gas)</b>	99,999.00 ppm
<b>ATEmix (inhalation-vapor)</b>	99,999.00 mg/l
<b>ATEmix (inhalation-dust/mist)</b>	99,999.00 mg/l

**Numerical measures of toxicity - Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Magnesium chloride	= 2800 mg/kg ( Rat )	> 2000 mg/kg ( Rat )	-

*Abbreviations and acronyms*

Rat: Rat

<b>Symptoms</b>	No information available.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available.
<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.

**12. Ecological information**

**Ecotoxicity** Classification not possible. Based on available data, the classification criteria are not met.

Chemical name	Algae/aquatic plants	Fish	Crustacea
Magnesium chloride	EC50: >82.7mg/L (72h, Pseudokirchneriella subcapitata)	LC50: 1970 - 3880mg/L (96h, Pimephales promelas)	EC50: =140mg/L (48h, Daphnia magna)

**Percentage for unknown hazards** 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

**Mobility in soil** No information available.

**Hazardous to the ozone layer** Classification not possible. Based on available data, the classification criteria are not met.

**Other adverse effects** No information available.

### 13. Disposal considerations

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

### 14. Transport information

#### International Regulations

**IMDG** Not regulated

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

No information available

**ADR** Not regulated

**IATA** Not regulated

#### **Domestic regulations**

See section 15. If product is subject to the Fire Service Law, Poisonous and Deleterious Substance Control Law, High Pressure Gas Safety Law, Ship Safety Law, and/or the Civil Aeronautics Act, the requirements that are specific to each of the laws must be followed.

**Japan** Not regulated

### 15. Regulatory information

#### **National regulations**

##### **Industrial Safety and Health Law**

Not applicable

##### **ISHL Notifiable Substances**

Not applicable

##### **Harmful Substances Whose Names Are to be Indicated on the Label**

Not applicable

##### **Poisonous and Deleterious Substances Control Law**

Not applicable

##### **Fire Service Law:**

Not applicable

##### **Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (CSCL)**

Not applicable

##### **Act on Prevention of Marine Pollution and Maritime Disaster**

Not applicable

#### International Regulations

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

#### International Inventories

**TSCA** Does not comply

**DSL/NDSL** Does not comply

**EINECS/ELINCS** Does not comply

**ENCS** Does not comply

**IECSC** Does not comply

**KECI** Does not comply

**PICCS** Does not comply

AIIC Does not comply  
 NZIoC Does not comply  
 TCSI TCSI

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AIIC** - Australian Inventory of Industrial Chemicals  
**NZIoC** - New Zealand Inventory of Chemicals  
**TCSI** - Taiwan Chemical Substance Inventory

**16. Other information**

**Prepared By** PacBio  
 Environment, Health, and Safety  
 1305 O'Brien Drive  
 Menlo Park, CA 94025  
 USA  
 safety@pacb.com

**Revision date** 08-Apr-2024  
**Revision Note** \*\*\*Indicates updated data since last publication.

**Key or legend to abbreviations and acronyms used in the safety data sheet**Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	Ceiling	Maximum limit value
Sk*	Skin designation	+	Sensitizers

**Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Chemicals Agency  
 European Food Safety Authority (EFSA)  
 Environmental Protection Agency  
 Acute Exposure Guideline Level(s) (AEGL(s))  
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
 U.S. Environmental Protection Agency High Production Volume Chemicals  
 Food Research Journal  
 Hazardous Substance Database  
 International Uniform Chemical Information Database (IUCLID)  
 National Institute of Technology and Evaluation (NITE)  
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
 NIOSH (National Institute for Occupational Safety and Health)  
 National Library of Medicine's ChemID Plus (NLM CIP)  
 National Library of Medicine's PubMed database (NLM PUBMED)  
 U.S. National Toxicology Program (NTP)  
 New Zealand's Chemical Classification and Information Database (CCID)  
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
 Organization for Economic Co-operation and Development Screening Information Data Set  
 World Health Organization

**Disclaimer**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. It is not a warranty or quality specification. This information relates only to the specific material designated and may not be valid for use in combination with any other material or in any other process. Research use only. Not for use in diagnostic procedures. ©2024, Pacific Biosciences of California, Inc. ("PacBio"). All rights reserved. Information in this document is subject to change without notice. PacBio assumes no responsibility for any errors or omissions in this document. Certain



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**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet complies with the requirements of:  
JIS Z 7252:2019; JIS Z 7253:2019

Revision date 08-Apr-2024  
Revision Number 1

## 1. Identification

**Product Name** End repair 96  
**Registration Number(s)** No information available

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

#### **Manufacturer**

PacBio  
1305 O'Brien Drive  
Menlo Park, CA 94025  
USA  
www.pacb.com

**Emergency telephone number** CHEMTREC 1-800-424-9300 (CCN#656805)

**E-mail address** techsupport@pacb.com

### Recommended use of the chemical and restrictions on use

**Recommended use** As part of kit.

**Restrictions on use** For research use only

## 2. Hazard(s) identification

### GHS Classification

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Classification not possible
Acute toxicity - Dermal	Classification not possible
Acute toxicity - Inhalation (Gases)	Classification not applicable
Acute toxicity - Inhalation (Vapors)	Classification not possible
Acute toxicity - Inhalation (Dusts/Mists)	Classification not possible
Skin corrosion/irritation	Classification not possible
Serious eye damage/eye irritation	Classification not possible
Respiratory sensitization	Classification not possible
Skin sensitization	Classification not possible
Germ cell mutagenicity	Classification not possible
Carcinogenicity	Classification not possible
Reproductive toxicity	Classification not possible
Effects on or via lactation	Classification not possible
Specific target organ toxicity (single exposure)	Classification not possible
Specific target organ toxicity (repeated exposure)	Classification not possible
Aspiration hazard	Classification not possible
Acute aquatic toxicity	Classification not possible
Chronic aquatic toxicity	Not classified
Hazardous to the ozone layer	Classification not possible

### GHS label elements

#### **Hazard statements**

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

#### **Prevention**

- Not applicable

#### **Response**

- Not applicable

**Storage**

- Not applicable

**Disposal**

- Not applicable

**Other hazards**

No information available.

**Biological Material**

Product contains substance(s) derived from bacteria, and Bovine Serum Albumin (BSA).

**3. Composition/information on ingredients****Pure substance/mixture**

Mixture

The product contains no substances which at their given concentration, are considered to be hazardous to health.

**Pollutant Release and Transfer Register (PRTR)**

Not applicable

**Industrial Safety and Health Law**ISHL Notifiable Substances

Not applicable

Harmful Substances Whose Names Are to be Indicated on the Label

Not applicable

**Poisonous and Deleterious Substances Control Law**

Not applicable

**4. First-aid measures**

<b>In case of inhalation</b>	Remove to fresh air.
<b>In case of skin contact</b>	Wash skin with soap and water.
<b>In case of eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>In case of ingestion</b>	Rinse mouth.
<b>Most important symptoms/effects, acute and delayed</b>	No information available.
<b>Note to physicians</b>	Treat symptomatically.

**5. Fire-fighting measures**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Specific hazards arising from the chemical</b>	No information available.
<b>Special Extinguishing Media</b>	Cool drums with water spray.
<b>Special protective equipment and</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

<b>precautions for fire-fighters</b>	Use personal protection equipment.
<b>Other information</b>	CAUTION: Use of water spray when fighting fire may be inefficient.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Ensure adequate ventilation.
<b>For emergency responders</b>	Use personal protection recommended in Section 8.
<b>Environmental precautions</b>	See Section 12 for additional Ecological Information.
<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. Handling and storage

### Handling

<b>Advice on safe handling</b>	Handle in accordance with good industrial hygiene and safety practice.
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### Storage

<b>Storage Conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.
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## 8. Exposure controls/personal protection

<b>Exposure guidelines</b>	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
<b>Biological monitoring indicator</b>	This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies
<b>Engineering controls</b>	Showers Eyewash stations Ventilation systems.
<b>Environmental exposure controls</b>	No information available.
<b>Personal protective equipment</b>	
<b>Respiratory protection</b>	Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
<b>Hand protection</b>	Appropriate hand protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.
<b>Eye/face protection</b>	Appropriate eye/face protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.
<b>Skin and body protection</b>	Appropriate skin and body protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

Appearance	Liquid
Physical state	Liquid
Color	clear colorless
Odor	Odorless
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point		No information available
Initial boiling point and boiling range		No information available
Upper/lower flammability or explosive limits		No information available
Upper flammability or explosive limits		
Lower flammability or explosive limits		
Flash point		No information available
Evaporation rate		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
pH	7 - 8.5	No information available
Viscosity		
Water solubility		No information available
Solubility(ies)		No information available
Partition Coefficient (n-octanol/water)		No information available
Vapor pressure		No information available
Density and/or relative density		
Relative density		No information available

**Other information**

Explosive properties	No information available
Oxidizing properties	No information available

**10. Stability and reactivity**

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	No information available.
Incompatible materials	None known based on information supplied.
Hazardous decomposition products	None known based on information supplied.

**11. Toxicological information****Acute toxicity****Numerical measures of toxicity - Product Information**

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	31,500.00 mg/kg
ATEmix (dermal)	25,000.00 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-vapor)	99,999.00 mg/l
ATEmix (inhalation-dust/mist)	6.88 mg/l

<b>Symptoms</b>	No information available.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available.
<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.

## 12. Ecological information

<b>Ecotoxicity</b>	Classification not possible. Based on available data, the classification criteria are not met.
<b>Percentage for unknown hazards</b>	0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.
<b>Persistence and degradability</b>	No information available.
<b>Bioaccumulation</b>	There is no data for this product.
<b>Mobility in soil</b>	No information available.
<b>Hazardous to the ozone layer</b>	Classification not possible. Based on available data, the classification criteria are not met.
<b>Other adverse effects</b>	No information available.

## 13. Disposal considerations

<b>Waste from residues/unused products</b>	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
<b>Contaminated packaging</b>	Do not reuse empty containers.

**14. Transport information****International Regulations****IMDG** Not regulated

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
 No information available

**ADR** Not regulated**IATA** Not regulated**Domestic regulations**

See section 15. If product is subject to the Fire Service Law, Poisonous and Deleterious Substance Control Law, High Pressure Gas Safety Law, Ship Safety Law, and/or the Civil Aeronautics Act, the requirements that are specific to each of the laws must be followed.

**Japan** Not regulated**15. Regulatory information****National regulations****Industrial Safety and Health Law**

Not applicable

**ISHL Notifiable Substances**

Not applicable

**Harmful Substances Whose Names Are to be Indicated on the Label**

Not applicable

**Poisonous and Deleterious Substances Control Law**

Not applicable

**Fire Service Law:**

Not applicable

**Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (CSCL)**

Not applicable

**Act on Prevention of Marine Pollution and Maritime Disaster**

Not applicable

**Waterworks (Water Supply) Act**

Waterworks (Water Supply) Act - items that require further study

**Air Pollution Control Law**

Volatile organic compound per Air Pollution Control Law article 2, paragraph 4

Hazardous air pollutants (HAPs) per Air Pollution Control Law article 2, paragraph 1, item 3 and Enforcement Order article 1

**International Regulations****The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**International Inventories****TSCA** Does not comply**DSL/NDL** Does not comply**EINECS/ELINCS** Does not comply**ENCS** Does not comply**IECSC** Does not comply**KECI** Does not comply**PICCS** Does not comply**AIIC** Does not comply**NZIoC** Does not comply**TCSI** TCSI**Legend:****TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AIIC** - Australian Inventory of Industrial Chemicals  
**NZIoC** - New Zealand Inventory of Chemicals  
**TCSI** - Taiwan Chemical Substance Inventory

## 16. Other information

**Prepared By** PacBio  
 Environment, Health, and Safety  
 1305 O'Brien Drive  
 Menlo Park, CA 94025  
 USA  
 safety@pacb.com  
**Revision date** 08-Apr-2024  
**Revision Note** \*\*\*Indicates updated data since last publication.

### Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	Ceiling	Maximum limit value
Sk*	Skin designation	+	Sensitizers

### Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Chemicals Agency  
 European Food Safety Authority (EFSA)  
 Environmental Protection Agency  
 Acute Exposure Guideline Level(s) (AEGl(s))  
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
 U.S. Environmental Protection Agency High Production Volume Chemicals  
 Food Research Journal  
 Hazardous Substance Database  
 International Uniform Chemical Information Database (IUCLID)  
 National Institute of Technology and Evaluation (NITE)  
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
 NIOSH (National Institute for Occupational Safety and Health)  
 National Library of Medicine's ChemID Plus (NLM CIP)  
 National Library of Medicine's PubMed database (NLM PUBMED)  
 U.S. National Toxicology Program (NTP)  
 New Zealand's Chemical Classification and Information Database (CCID)  
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
 Organization for Economic Co-operation and Development Screening Information Data Set  
 World Health Organization

### Disclaimer

**The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. It is not a warranty or quality specification. This information relates only to the specific material designated and may not be valid for use in combination with any other material or in any other process. Research use only. Not for use in diagnostic procedures. ©2024, Pacific Biosciences of California, Inc. ("PacBio"). All rights reserved. Information in this document is subject to change without notice. PacBio assumes no responsibility for any errors or omissions in this document. Certain notices, terms, conditions and/or use restrictions may pertain to your use of PacBio products and/or third-party products. Refer to the applicable PacBio terms and conditions of sale and to the applicable license terms at pacb.com/license. Pacific Biosciences, the PacBio logo, PacBio, Circulomics, Omniome, SMRT, SMRTbell, Iso-Seq, Sequel, Nanobind, SBB, Revio, Onso, Apton, Kinnex and PureTarget are trademarks of PacBio.**

**End of Safety Data Sheet**





# SAFETY DATA SHEET

This safety data sheet complies with the requirements of:  
JIS Z 7252:2019; JIS Z 7253:2019

Revision date 08-Apr-2024  
Revision Number 1

## 1. Identification

**Product Name** DNA repair 96  
**Registration Number(s)** No information available

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

#### **Manufacturer**

PacBio  
1305 O'Brien Drive  
Menlo Park, CA 94025  
USA  
www.pacb.com

**Emergency telephone number** CHEMTREC 1-800-424-9300 (CCN#656805)

**E-mail address** techsupport@pacb.com

### Recommended use of the chemical and restrictions on use

**Recommended use** See product insert.

**Restrictions on use** For research use only

## 2. Hazard(s) identification

### GHS Classification

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Classification not possible
Acute toxicity - Dermal	Classification not possible
Acute toxicity - Inhalation (Gases)	Classification not applicable
Skin corrosion/irritation	Classification not possible
Serious eye damage/eye irritation	Classification not possible
Respiratory sensitization	Classification not possible
Skin sensitization	Classification not possible
Germ cell mutagenicity	Classification not possible
Carcinogenicity	Classification not possible
Reproductive toxicity	Classification not possible
Effects on or via lactation	Classification not possible
Specific target organ toxicity (single exposure)	Classification not possible
Specific target organ toxicity (repeated exposure)	Classification not possible
Aspiration hazard	Classification not possible
Acute aquatic toxicity	Classification not possible
Chronic aquatic toxicity	Not classified
Hazardous to the ozone layer	Classification not possible

### GHS label elements

#### **Hazard statements**

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

#### **Prevention**

- Not applicable

#### **Response**

- Not applicable

#### **Storage**

• Not applicable

**Disposal**

• Not applicable

**Other hazards**

No information available.

**Biological Material**

Product contains substance(s) derived from bacteria.

**3. Composition/information on ingredients**

**Pure substance/mixture** Mixture

The product contains no substances which at their given concentration, are considered to be hazardous to health.

**Pollutant Release and Transfer Register (PRTR)**

Not applicable

**Industrial Safety and Health Law**

ISHL Notifiable Substances

Not applicable

Harmful Substances Whose Names Are to be Indicated on the Label

Not applicable

**Poisonous and Deleterious Substances Control Law**

Not applicable

**4. First-aid measures**

<b>In case of inhalation</b>	Remove to fresh air.
<b>In case of skin contact</b>	Wash skin with soap and water.
<b>In case of eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>In case of ingestion</b>	Rinse mouth.
<b>Most important symptoms/effects, acute and delayed</b>	No information available.
<b>Note to physicians</b>	Treat symptomatically.

**5. Fire-fighting measures**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Specific hazards arising from the chemical</b>	No information available.
<b>Special Extinguishing Media</b>	Cool drums with water spray.
<b>Special protective equipment and precautions for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**Other information** CAUTION: Use of water spray when fighting fire may be inefficient.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Ensure adequate ventilation.
<b>For emergency responders</b>	Use personal protection recommended in Section 8.
<b>Environmental precautions</b>	See Section 12 for additional Ecological Information.
<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. Handling and storage

### Handling

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

### Storage

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. Exposure controls/personal protection

<b>Exposure guidelines</b>	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
<b>Biological monitoring indicator</b>	This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies
<b>Engineering controls</b>	Showers Eyewash stations Ventilation systems.
<b>Environmental exposure controls</b>	No information available.
<b><u>Personal protective equipment</u></b>	
<b>Respiratory protection</b>	Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
<b>Hand protection</b>	Appropriate hand protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.
<b>Eye/face protection</b>	Appropriate eye/face protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.
<b>Skin and body protection</b>	Appropriate skin and body protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

**Appearance** No information available

Physical state	No information available
Color	clear colorless
Odor	Odorless
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point		No information available
Initial boiling point and boiling range		No information available
Upper/lower flammability or explosive limits		No information available
Upper flammability or explosive limits		
Lower flammability or explosive limits		
Flash point		No information available
Evaporation rate		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
pH		No information available
Viscosity		
Water solubility		No information available
Solubility(ies)		No information available
Partition Coefficient (n-octanol/water)		No information available
Vapor pressure		No information available
Density and/or relative density		
Relative density		No information available

**Other information**

Explosive properties	No information available
Oxidizing properties	No information available

**10. Stability and reactivity**

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	No information available.
Incompatible materials	None known based on information supplied.
Hazardous decomposition products	None known based on information supplied.

**11. Toxicological information****Acute toxicity****Numerical measures of toxicity - Product Information**

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	28,000.00 mg/kg
ATEmix (dermal)	22,222.20 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-vapor)	99,999.00 mg/l
ATEmix (inhalation-dust/mist)	6.11 mg/l

Symptoms	No information available.
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<b>Ingestion</b>	Specific test data for the substance or mixture is not available.
<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.

## 12. Ecological information

**Ecotoxicity** Classification not possible. Based on available data, the classification criteria are not met.

**Percentage for unknown hazards** 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

**Mobility in soil** No information available.

**Hazardous to the ozone layer** Classification not possible. Based on available data, the classification criteria are not met.

**Other adverse effects** No information available.

## 13. Disposal considerations

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

## 14. Transport information

**International Regulations****IMDG** Not regulated

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
 No information available

**ADR** Not regulated**IATA** Not regulated**Domestic regulations**

See section 15. If product is subject to the Fire Service Law, Poisonous and Deleterious Substance Control Law, High Pressure Gas Safety Law, Ship Safety Law, and/or the Civil Aeronautics Act, the requirements that are specific to each of the laws must be followed.

**Japan** Not regulated**15. Regulatory information****National regulations****Industrial Safety and Health Law**

Not applicable

**ISHL Notifiable Substances**

Not applicable

**Harmful Substances Whose Names Are to be Indicated on the Label**

Not applicable

**Poisonous and Deleterious Substances Control Law**

Not applicable

**Fire Service Law:**

Not applicable

**Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (CSCL)**

Not applicable

**Act on Prevention of Marine Pollution and Maritime Disaster**

Not applicable

**Air Pollution Control Law**

Volatile organic compound per Air Pollution Control Law article 2, paragraph 4

**International Regulations****The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**International Inventories****TSCA** Does not comply**DSL/NDSL** Does not comply**EINECS/ELINCS** Does not comply**ENCS** Does not comply**IECSC** Does not comply**KECI** Does not comply**PICCS** Does not comply**AIIC** Does not comply**NZIoC** Does not comply**TCSI** TCSI**Legend:****TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AIIC** - Australian Inventory of Industrial Chemicals  
**NZIoC** - New Zealand Inventory of Chemicals  
**TCSI** - Taiwan Chemical Substance Inventory

## 16. Other information

**Prepared By** PacBio  
Environment, Health, and Safety  
1305 O'Brien Drive  
Menlo Park, CA 94025  
USA  
safety@pacb.com  
**Revision date** 08-Apr-2024  
**Revision Note** \*\*\*Indicates updated data since last publication.

### Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	Ceiling	Maximum limit value
Sk*	Skin designation	+	Sensitizers

### Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)  
U.S. Environmental Protection Agency ChemView Database  
European Chemicals Agency  
European Food Safety Authority (EFSA)  
Environmental Protection Agency  
Acute Exposure Guideline Level(s) (AEGl(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
National Institute of Technology and Evaluation (NITE)  
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
U.S. National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
World Health Organization

### Disclaimer

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**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet complies with the requirements of:  
JIS Z 7252:2019; JIS Z 7253:2019

Revision date 08-Apr-2024  
Revision Number 1

## 1. Identification

**Product Name** Ligation mix 96  
**Registration Number(s)** No information available

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

#### **Manufacturer**

PacBio  
1305 O'Brien Drive  
Menlo Park, CA 94025  
USA  
www.pacb.com

**Emergency telephone number** CHEMTREC 1-800-424-9300 (CCN#656805)

**E-mail address** techsupport@pacb.com

### Recommended use of the chemical and restrictions on use

**Recommended use** As part of kit.

**Restrictions on use** For research use only

## 2. Hazard(s) identification

### GHS Classification

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Classification not possible
Acute toxicity - Dermal	Classification not possible
Acute toxicity - Inhalation (Gases)	Classification not applicable
Acute toxicity - Inhalation (Vapors)	Classification not possible
Acute toxicity - Inhalation (Dusts/Mists)	Classification not possible
Skin corrosion/irritation	Classification not possible
Serious eye damage/eye irritation	Classification not possible
Respiratory sensitization	Classification not possible
Skin sensitization	Classification not possible
Germ cell mutagenicity	Classification not possible
Carcinogenicity	Classification not possible
Reproductive toxicity	Classification not possible
Effects on or via lactation	Classification not possible
Specific target organ toxicity (single exposure)	Classification not possible
Specific target organ toxicity (repeated exposure)	Classification not possible
Aspiration hazard	Classification not possible
Acute aquatic toxicity	Classification not possible
Chronic aquatic toxicity	Not classified
Hazardous to the ozone layer	Classification not possible

### GHS label elements

#### **Hazard statements**

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

#### **Prevention**

- Not applicable

#### **Response**



- Not applicable

**Storage**

- Not applicable

**Disposal**

- Not applicable

**Other hazards**

No information available.

**Biological Material**

Product contains substance(s) derived from bacteria.

**3. Composition/information on ingredients****Pure substance/mixture**

Mixture

The product contains no substances which at their given concentration, are considered to be hazardous to health.

**Pollutant Release and Transfer Register (PRTR)**

Not applicable

**Industrial Safety and Health Law****ISHL Notifiable Substances**

Not applicable

**Harmful Substances Whose Names Are to be Indicated on the Label**

Not applicable

**Poisonous and Deleterious Substances Control Law**

Not applicable

**4. First-aid measures**

<b>In case of inhalation</b>	Remove to fresh air.
<b>In case of skin contact</b>	Wash skin with soap and water.
<b>In case of eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>In case of ingestion</b>	Rinse mouth.
<b>Most important symptoms/effects, acute and delayed</b>	No information available.
<b>Note to physicians</b>	Treat symptomatically.

**5. Fire-fighting measures**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Specific hazards arising from the chemical</b>	No information available.
<b>Special Extinguishing Media</b>	Cool drums with water spray.
<b>Special protective equipment and</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

<b>precautions for fire-fighters</b>	Use personal protection equipment.
<b>Other information</b>	CAUTION: Use of water spray when fighting fire may be inefficient.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Ensure adequate ventilation.
<b>For emergency responders</b>	Use personal protection recommended in Section 8.
<b>Environmental precautions</b>	See Section 12 for additional Ecological Information.
<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. Handling and storage

### Handling

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

### Storage

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. Exposure controls/personal protection

<b>Exposure guidelines</b>	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
<b>Biological monitoring indicator</b>	This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies
<b>Engineering controls</b>	Showers Eyewash stations Ventilation systems.
<b>Environmental exposure controls</b>	No information available.
<b>Personal protective equipment</b>	
<b>Respiratory protection</b>	Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
<b>Hand protection</b>	Appropriate hand protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.
<b>Eye/face protection</b>	Appropriate eye/face protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.
<b>Skin and body protection</b>	Appropriate skin and body protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

Appearance	Liquid
Physical state	Liquid
Color	clear colorless
Odor	Odorless
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point		No information available
Initial boiling point and boiling range		No information available
Upper/lower flammability or explosive limits		No information available
Upper flammability or explosive limits		
Lower flammability or explosive limits		
Flash point		No information available
Evaporation rate		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
pH	7 - 8.5	No information available
Viscosity		
Water solubility		No information available
Solubility(ies)		No information available
Partition Coefficient (n-octanol/water)		No information available
Vapor pressure		No information available
Density and/or relative density		
Relative density		No information available

**Other information**

Explosive properties	No information available
Oxidizing properties	No information available

**10. Stability and reactivity**

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	No information available.
Incompatible materials	None known based on information supplied.
Hazardous decomposition products	None known based on information supplied.

**11. Toxicological information****Acute toxicity****Numerical measures of toxicity - Product Information**

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	30,455.90 mg/kg
ATEmix (dermal)	24,444.40 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-vapor)	99,999.00 mg/l
ATEmix (inhalation-dust/mist)	7.79 mg/l

<b>Symptoms</b>	No information available.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available.
<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.

## 12. Ecological information

**Ecotoxicity** Classification not possible. Based on available data, the classification criteria are not met.

**Percentage for unknown hazards** 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

**Mobility in soil** No information available.

**Hazardous to the ozone layer** Classification not possible. Based on available data, the classification criteria are not met.

**Other adverse effects** No information available.

## 13. Disposal considerations

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

**14. Transport information****International Regulations****IMDG** Not regulated

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
 No information available

**ADR** Not regulated**IATA** Not regulated**Domestic regulations**

See section 15. If product is subject to the Fire Service Law, Poisonous and Deleterious Substance Control Law, High Pressure Gas Safety Law, Ship Safety Law, and/or the Civil Aeronautics Act, the requirements that are specific to each of the laws must be followed.

**Japan** Not regulated**15. Regulatory information****National regulations****Industrial Safety and Health Law**

Not applicable

**ISHL Notifiable Substances**

Not applicable

**Harmful Substances Whose Names Are to be Indicated on the Label**

Not applicable

**Poisonous and Deleterious Substances Control Law**

Not applicable

**Fire Service Law:**

Not applicable

**Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (CSCL)**

Not applicable

**Act on Prevention of Marine Pollution and Maritime Disaster**

Not applicable

**Air Pollution Control Law**

Air pollutants with regulated emissions standards, Air Pollution Control Act article 3

Volatile organic compound per Air Pollution Control Law article 2, paragraph 4

**International Regulations****The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**International Inventories****TSCA** Does not comply**DSL/NDL** Does not comply**EINECS/ELINCS** Does not comply**ENCS** Does not comply**IECSC** Does not comply**KECI** Does not comply**PICCS** Does not comply**AIIC** Does not comply**NZIoC** Does not comply**TCSI** TCSI**Legend:****TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AIIC** - Australian Inventory of Industrial Chemicals  
**NZIoC** - New Zealand Inventory of Chemicals  
**TCSI** - Taiwan Chemical Substance Inventory

## 16. Other information

**Prepared By** PacBio  
 Environment, Health, and Safety  
 1305 O'Brien Drive  
 Menlo Park, CA 94025  
 USA  
 safety@pacb.com  
**Revision date** 08-Apr-2024  
**Revision Note** \*\*\*Indicates updated data since last publication.

### Key or legend to abbreviations and acronyms used in the safety data sheet

#### Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	Ceiling	Maximum limit value
Sk*	Skin designation	+	Sensitizers

### Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Chemicals Agency  
 European Food Safety Authority (EFSA)  
 Environmental Protection Agency  
 Acute Exposure Guideline Level(s) (AEGL(s))  
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
 U.S. Environmental Protection Agency High Production Volume Chemicals  
 Food Research Journal  
 Hazardous Substance Database  
 International Uniform Chemical Information Database (IUCLID)  
 National Institute of Technology and Evaluation (NITE)  
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
 NIOSH (National Institute for Occupational Safety and Health)  
 National Library of Medicine's ChemID Plus (NLM CIP)  
 National Library of Medicine's PubMed database (NLM PUBMED)  
 U.S. National Toxicology Program (NTP)  
 New Zealand's Chemical Classification and Information Database (CCID)  
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
 Organization for Economic Co-operation and Development Screening Information Data Set  
 World Health Organization

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**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet complies with the requirements of:  
JIS Z 7252:2019; JIS Z 7253:2019

Revision date 08-Apr-2024  
Revision Number 1

## 1. Identification

**Product Name** Ligation enhancer 96  
**Registration Number(s)** No information available

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

#### **Manufacturer**

PacBio  
1305 O'Brien Drive  
Menlo Park, CA 94025  
USA  
www.pacb.com

**Emergency telephone number** CHEMTREC 1-800-424-9300 (CCN#656805)

**E-mail address** techsupport@pacb.com

### Recommended use of the chemical and restrictions on use

**Recommended use** As part of kit.

**Restrictions on use** For research use only

## 2. Hazard(s) identification

### GHS Classification

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Not classified
Acute toxicity - Dermal	Not classified
Acute toxicity - Inhalation (Gases)	Classification not applicable
Acute toxicity - Inhalation (Vapors)	Classification not possible
Acute toxicity - Inhalation (Dusts/Mists)	Not classified
Skin corrosion/irritation	Classification not possible
Serious eye damage/eye irritation	Classification not possible
Respiratory sensitization	Classification not possible
Skin sensitization	Classification not possible
Germ cell mutagenicity	Classification not possible
Carcinogenicity	Classification not possible
Reproductive toxicity	Classification not possible
Effects on or via lactation	Classification not possible
Specific target organ toxicity (single exposure)	Classification not possible
Specific target organ toxicity (repeated exposure)	Classification not possible
Aspiration hazard	Classification not possible
Acute aquatic toxicity	Not classified
Chronic aquatic toxicity	Not classified
Hazardous to the ozone layer	Classification not possible

### GHS label elements

#### **Hazard statements**

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

#### **Prevention**

- Not applicable

#### **Response**

- Not applicable

**Storage**

- Not applicable

**Disposal**

- Not applicable

**Other hazards**

No information available.

**3. Composition/information on ingredients****Pure substance/mixture**

Mixture

The product contains no substances which at their given concentration, are considered to be hazardous to health.

**Pollutant Release and Transfer Register (PRTR)**

Not applicable

**Industrial Safety and Health Law****ISHL Notifiable Substances**

Not applicable

**Harmful Substances Whose Names Are to be Indicated on the Label**

Not applicable

**Poisonous and Deleterious Substances Control Law**

Not applicable

**4. First-aid measures**

<b>In case of inhalation</b>	Remove to fresh air.
<b>In case of skin contact</b>	Wash skin with soap and water.
<b>In case of eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>In case of ingestion</b>	Rinse mouth.
<b>Most important symptoms/effects, acute and delayed</b>	No information available.
<b>Note to physicians</b>	Treat symptomatically.

**5. Fire-fighting measures**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Specific hazards arising from the chemical</b>	No information available.
<b>Special Extinguishing Media</b>	Cool drums with water spray.
<b>Special protective equipment and precautions for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.



**Other information** CAUTION: Use of water spray when fighting fire may be inefficient.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Ensure adequate ventilation.
<b>For emergency responders</b>	Use personal protection recommended in Section 8.
<b>Environmental precautions</b>	See Section 12 for additional Ecological Information.
<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. Handling and storage

### Handling

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

### Storage

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. Exposure controls/personal protection

<b>Exposure guidelines</b>	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
<b>Biological monitoring indicator</b>	This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies
<b>Engineering controls</b>	Showers Eyewash stations Ventilation systems.
<b>Environmental exposure controls</b>	No information available.
<b><u>Personal protective equipment</u></b>	
<b>Respiratory protection</b>	Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
<b>Hand protection</b>	Appropriate hand protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.
<b>Eye/face protection</b>	Appropriate eye/face protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.
<b>Skin and body protection</b>	Appropriate skin and body protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

**Appearance** Liquid

Physical state	Liquid
Color	clear colorless
Odor	Odorless
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point		No information available
Initial boiling point and boiling range		No information available
Upper/lower flammability or explosive limits		No information available
Upper flammability or explosive limits		
Lower flammability or explosive limits		
Flash point		No information available
Evaporation rate		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
pH	7 - 8.5	No information available
Viscosity		
Water solubility		No information available
Solubility(ies)		No information available
Partition Coefficient (n-octanol/water)		No information available
Vapor pressure		No information available
Density and/or relative density		
Relative density		No information available

**Other information**

Explosive properties	No information available
Oxidizing properties	No information available

**10. Stability and reactivity**

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	No information available.
Incompatible materials	None known based on information supplied.
Hazardous decomposition products	None known based on information supplied.

**11. Toxicological information****Acute toxicity****Numerical measures of toxicity - Product Information**

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	25,200.00 mg/kg
ATEmix (dermal)	20,000.00 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-vapor)	99,999.00 mg/l
ATEmix (inhalation-dust/mist)	5.50 mg/l

Symptoms	No information available.
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<b>Ingestion</b>	Specific test data for the substance or mixture is not available.
<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.

## 12. Ecological information

**Ecotoxicity** Classification not possible. Based on available data, the classification criteria are not met.

**Percentage for unknown hazards** 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

**Mobility in soil** No information available.

**Hazardous to the ozone layer** Classification not possible. Based on available data, the classification criteria are not met.

**Other adverse effects** No information available.

## 13. Disposal considerations

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

## 14. Transport information

**International Regulations****IMDG**                                 Not regulated

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
 No information available

**ADR**                                     Not regulated**IATA**                                    Not regulated**Domestic regulations**

See section 15. If product is subject to the Fire Service Law, Poisonous and Deleterious Substance Control Law, High Pressure Gas Safety Law, Ship Safety Law, and/or the Civil Aeronautics Act, the requirements that are specific to each of the laws must be followed.

**Japan**                                    Not regulated**15. Regulatory information****National regulations****Industrial Safety and Health Law**

Not applicable

**ISHL Notifiable Substances**

Not applicable

**Harmful Substances Whose Names Are to be Indicated on the Label**

Not applicable

**Poisonous and Deleterious Substances Control Law**

Not applicable

**Fire Service Law:**

Not applicable

**Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (CSCL)**

Not applicable

**Act on Prevention of Marine Pollution and Maritime Disaster**

Not applicable

**Waterworks (Water Supply) Act**

Waterworks (Water Supply) Act - items that require further study

**Air Pollution Control Law**

Volatile organic compound per Air Pollution Control Law article 2, paragraph 4

Hazardous air pollutants (HAPs) per Air Pollution Control Law article 2, paragraph 1, item 3 and Enforcement Order article 1

**International Regulations****The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**International Inventories**

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Does not comply
<b>IECSC</b>	Complies
<b>KECI</b>	Does not comply
<b>PICCS</b>	Complies
<b>AIIC</b>	Complies
<b>NZIoC</b>	Complies
<b>TCSI</b>	TCSI

**Legend:****TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AIIC** - Australian Inventory of Industrial Chemicals  
**NZIoC** - New Zealand Inventory of Chemicals  
**TCSI** - Taiwan Chemical Substance Inventory

## 16. Other information

**Prepared By** PacBio  
 Environment, Health, and Safety  
 1305 O'Brien Drive  
 Menlo Park, CA 94025  
 USA  
 safety@pacb.com  
**Revision date** 08-Apr-2024  
**Revision Note** \*\*\*Indicates updated data since last publication.

### Key or legend to abbreviations and acronyms used in the safety data sheet

#### Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	Ceiling	Maximum limit value
Sk*	Skin designation	+	Sensitizers

### Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Chemicals Agency  
 European Food Safety Authority (EFSA)  
 Environmental Protection Agency  
 Acute Exposure Guideline Level(s) (AEGl(s))  
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
 U.S. Environmental Protection Agency High Production Volume Chemicals  
 Food Research Journal  
 Hazardous Substance Database  
 International Uniform Chemical Information Database (IUCLID)  
 National Institute of Technology and Evaluation (NITE)  
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
 NIOSH (National Institute for Occupational Safety and Health)  
 National Library of Medicine's ChemID Plus (NLM CIP)  
 National Library of Medicine's PubMed database (NLM PUBMED)  
 U.S. National Toxicology Program (NTP)  
 New Zealand's Chemical Classification and Information Database (CCID)  
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
 Organization for Economic Co-operation and Development Screening Information Data Set  
 World Health Organization

### Disclaimer

**The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. It is not a warranty or quality specification. This information relates only to the specific material designated and may not be valid for use in combination with any other material or in any other process. Research use only. Not for use in diagnostic procedures. ©2024, Pacific Biosciences of California, Inc. ("PacBio"). All rights reserved. Information in this document is subject to change without notice. PacBio assumes no responsibility for any errors or omissions in this document. Certain notices, terms, conditions and/or use restrictions may pertain to your use of PacBio products and/or third-party products. Refer to the applicable PacBio terms and conditions of sale and to the applicable license terms at pacb.com/license. Pacific Biosciences, the PacBio logo, PacBio, Circulomics, Omniome, SMRT, SMRTbell, Iso-Seq, Sequel, Nanobind, SBB, Revio, Onso, Apton, Kinnex and PureTarget are trademarks of PacBio.**

**End of Safety Data Sheet**



# SAFETY DATA SHEET

This safety data sheet complies with the requirements of:  
JIS Z 7252:2019; JIS Z 7253:2019

Revision date 08-Apr-2024  
Revision Number 1

## 1. Identification

**Product Name** Nuclease buffer 96  
**Registration Number(s)** No information available

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

#### **Manufacturer**

PacBio  
1305 O'Brien Drive  
Menlo Park, CA 94025  
USA  
www.pacb.com

**Emergency telephone number** CHEMTREC 1-800-424-9300 (CCN#656805)

**E-mail address** techsupport@pacb.com

### Recommended use of the chemical and restrictions on use

**Recommended use** As part of kit.

**Restrictions on use** For research use only

## 2. Hazard(s) identification

### GHS Classification

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Not classified
Acute toxicity - Dermal	Not classified
Acute toxicity - Inhalation (Gases)	Classification not applicable
Acute toxicity - Inhalation (Vapors)	Not classified
Acute toxicity - Inhalation (Dusts/Mists)	Not classified
Skin corrosion/irritation	Not classified
Serious eye damage/eye irritation	Not classified
Respiratory sensitization	Classification not possible
Skin sensitization	Classification not possible
Germ cell mutagenicity	Classification not possible
Carcinogenicity	Classification not possible
Reproductive toxicity	Classification not possible
Effects on or via lactation	Classification not possible
Specific target organ toxicity (single exposure)	Not classified
Specific target organ toxicity (repeated exposure)	Not classified
Aspiration hazard	Not classified
Acute aquatic toxicity	Not classified
Chronic aquatic toxicity	Not classified
Hazardous to the ozone layer	Classification not possible

### GHS label elements

#### **Hazard statements**

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

#### **Prevention**

- Not applicable

#### **Response**

- Not applicable

**Storage**

- Not applicable

**Disposal**

- Not applicable

**Other hazards**

No information available.

**Biological Material**

Product contains Bovine Serum Albumin (BSA).

**3. Composition/information on ingredients****Pure substance/mixture**

Mixture

The product contains no substances which at their given concentration, are considered to be hazardous to health.

**Pollutant Release and Transfer Register (PRTR)**

Not applicable

**Industrial Safety and Health Law****ISHL Notifiable Substances**

Not applicable

**Harmful Substances Whose Names Are to be Indicated on the Label**

Not applicable

**Poisonous and Deleterious Substances Control Law**

Not applicable

**4. First-aid measures**

<b>In case of inhalation</b>	Remove to fresh air.
<b>In case of skin contact</b>	Wash skin with soap and water.
<b>In case of eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>In case of ingestion</b>	Rinse mouth.
<b>Most important symptoms/effects, acute and delayed</b>	No information available.
<b>Note to physicians</b>	Treat symptomatically.

**5. Fire-fighting measures**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Specific hazards arising from the chemical</b>	No information available.
<b>Special Extinguishing Media</b>	Cool drums with water spray.
<b>Special protective equipment and</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear.

<b>precautions for fire-fighters</b>	Use personal protection equipment.
<b>Other information</b>	CAUTION: Use of water spray when fighting fire may be inefficient.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Ensure adequate ventilation.
<b>For emergency responders</b>	Use personal protection recommended in Section 8.
<b>Environmental precautions</b>	See Section 12 for additional Ecological Information.
<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. Handling and storage

### Handling

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

### Storage

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. Exposure controls/personal protection

<b>Exposure guidelines</b>	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
<b>Biological monitoring indicator</b>	This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies
<b>Engineering controls</b>	Showers Eyewash stations Ventilation systems.
<b>Environmental exposure controls</b>	No information available.
<b>Personal protective equipment</b>	
<b>Respiratory protection</b>	Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
<b>Hand protection</b>	Appropriate hand protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.
<b>Eye/face protection</b>	Appropriate eye/face protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.
<b>Skin and body protection</b>	Appropriate skin and body protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties



Appearance	Liquid
Physical state	Liquid
Color	clear colorless
Odor	Odorless
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point		No information available
Initial boiling point and boiling range		No information available
Upper/lower flammability or explosive limits		No information available
Upper flammability or explosive limits		
Lower flammability or explosive limits		
Flash point		No information available
Evaporation rate		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
pH	7 - 8.5	No information available
Viscosity		
Water solubility		No information available
Solubility(ies)		No information available
Partition Coefficient (n-octanol/water)		No information available
Vapor pressure		No information available
Density and/or relative density		
Relative density		No information available

**Other information**

Explosive properties	No information available
Oxidizing properties	No information available

**10. Stability and reactivity**

Reactivity	No information available.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	No information available.
Incompatible materials	None known based on information supplied.
Hazardous decomposition products	None known based on information supplied.

**11. Toxicological information****Acute toxicity****Numerical measures of toxicity - Product Information**

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	99,999.00	mg/kg
ATEmix (dermal)	99,999.00	mg/kg
ATEmix (inhalation-gas)	99,999.00	ppm
ATEmix (inhalation-vapor)	99,999.00	mg/l
ATEmix (inhalation-dust/mist)	99,999.00	mg/l

<b>Symptoms</b>	No information available.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available.
<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.

## 12. Ecological information

**Ecotoxicity** Classification not possible. Based on available data, the classification criteria are not met.

**Percentage for unknown hazards** 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

**Mobility in soil** No information available.

**Hazardous to the ozone layer** Classification not possible. Based on available data, the classification criteria are not met.

**Other adverse effects** No information available.

## 13. Disposal considerations

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

**14. Transport information****International Regulations****IMDG** Not regulated

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

No information available

**ADR** Not regulated**IATA** Not regulated**Domestic regulations**

See section 15. If product is subject to the Fire Service Law, Poisonous and Deleterious Substance Control Law, High Pressure Gas Safety Law, Ship Safety Law, and/or the Civil Aeronautics Act, the requirements that are specific to each of the laws must be followed.

**Japan** Not regulated**15. Regulatory information****National regulations****Industrial Safety and Health Law**

Not applicable

**ISHL Notifiable Substances**

Not applicable

**Harmful Substances Whose Names Are to be Indicated on the Label**

Not applicable

**Poisonous and Deleterious Substances Control Law**

Not applicable

**Fire Service Law:**

Not applicable

**Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (CSCL)**

Not applicable

**Act on Prevention of Marine Pollution and Maritime Disaster**

Not applicable

**International Regulations****The Stockholm Convention on Persistent Organic Pollutants** Not applicable**The Rotterdam Convention** Not applicable**International Inventories**

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Does not comply
<b>IECSC</b>	Does not comply
<b>KECI</b>	Does not comply
<b>PICCS</b>	Complies
<b>AIIC</b>	Does not comply
<b>NZIoC</b>	Complies
<b>TCSI</b>	TCSI

**Legend:****TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AiIC** - Australian Inventory of Industrial Chemicals  
**NZIoC** - New Zealand Inventory of Chemicals  
**TCSI** - Taiwan Chemical Substance Inventory

## 16. Other information

**Prepared By** PacBio  
Environment, Health, and Safety  
1305 O'Brien Drive  
Menlo Park, CA 94025  
USA  
safety@pacb.com  
**Revision date** 08-Apr-2024  
**Revision Note** \*\*\*Indicates updated data since last publication.

### Key or legend to abbreviations and acronyms used in the safety data sheet

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	Ceiling	Maximum limit value
Sk*	Skin designation	+	Sensitizers

### Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)  
U.S. Environmental Protection Agency ChemView Database  
European Chemicals Agency  
European Food Safety Authority (EFSA)  
Environmental Protection Agency  
Acute Exposure Guideline Level(s) (AEGl(s))  
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
U.S. Environmental Protection Agency High Production Volume Chemicals  
Food Research Journal  
Hazardous Substance Database  
International Uniform Chemical Information Database (IUCLID)  
National Institute of Technology and Evaluation (NITE)  
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
NIOSH (National Institute for Occupational Safety and Health)  
National Library of Medicine's ChemID Plus (NLM CIP)  
National Library of Medicine's PubMed database (NLM PUBMED)  
U.S. National Toxicology Program (NTP)  
New Zealand's Chemical Classification and Information Database (CCID)  
Organization for Economic Co-operation and Development Environment, Health, and Safety Publications  
Organization for Economic Co-operation and Development High Production Volume Chemicals Program  
Organization for Economic Co-operation and Development Screening Information Data Set  
World Health Organization

### Disclaimer

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. It is not a warranty or quality specification. This information relates only to the specific material designated and may not be valid for use in combination with any other material or in any other process. Research use only. Not for use in diagnostic procedures. ©2024, Pacific Biosciences of California, Inc. ("PacBio"). All rights reserved. Information in this document is subject to change without notice. PacBio assumes no responsibility for any errors or omissions in this document. Certain notices, terms, conditions and/or use restrictions may pertain to your use of PacBio products and/or third-party products. Refer to the applicable PacBio terms and conditions of sale and to the applicable license terms at pacb.com/license. Pacific Biosciences, the PacBio logo, PacBio, Circulomics, Omniome, SMRT, SMRTbell, Iso-Seq, Sequel, Nanobind, SBB, Revio, Onso, Apton, Kinnex and PureTarget are trademarks of PacBio.

**End of Safety Data Sheet**

## 1. Identification

**Product Name** Nuclease mix 96  
**Registration Number(s)** No information available

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

#### **Manufacturer**

PacBio  
1305 O'Brien Drive  
Menlo Park, CA 94025  
USA  
www.pacb.com

**Emergency telephone number** CHEMTREC 1-800-424-9300 (CCN#656805)

**E-mail address** techsupport@pacb.com

### Recommended use of the chemical and restrictions on use

**Recommended use** See product insert.

**Restrictions on use** For research use only

## 2. Hazard(s) identification

### GHS Classification

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

Acute toxicity - Oral	Not classified
Acute toxicity - Dermal	Not classified
Acute toxicity - Inhalation (Gases)	Classification not applicable
Acute toxicity - Inhalation (Vapors)	Classification not possible
Acute toxicity - Inhalation (Dusts/Mists)	Not classified
Skin corrosion/irritation	Classification not possible
Serious eye damage/eye irritation	Classification not possible
Respiratory sensitization	Classification not possible
Skin sensitization	Classification not possible
Germ cell mutagenicity	Classification not possible
Carcinogenicity	Classification not possible
Reproductive toxicity	Classification not possible
Effects on or via lactation	Classification not possible
Specific target organ toxicity (single exposure)	Classification not possible
Specific target organ toxicity (repeated exposure)	Classification not possible
Aspiration hazard	Classification not possible
Acute aquatic toxicity	Not classified
Chronic aquatic toxicity	Not classified
Hazardous to the ozone layer	Classification not possible

### GHS label elements

#### **Hazard statements**

Not a hazardous substance or mixture according to the Globally Harmonized System (GHS)

**Prevention**

- Not applicable

**Response**

- Not applicable

**Storage**

- Not applicable

**Disposal**

- Not applicable

**Other hazards**

No information available.

**Biological Material**

Product contains substance(s) derived from bacteria, and Bovine Serum Albumin (BSA).

**3. Composition/information on ingredients****Pure substance/mixture**

Mixture

Chemical name	CAS No.	Weight-%	ENCS Inventory	ENCS Number	ISHL Inventory	ISHL No.
2-mercaptoethanol	60-24-2	0 - 10%	Existing	(2)-458	Existing	(2)-458

**Pollutant Release and Transfer Register (PRTR)**

Not applicable

**Industrial Safety and Health Law**ISHL Notifiable Substances

Not applicable

Harmful Substances Whose Names Are to be Indicated on the Label

Not applicable

**Poisonous and Deleterious Substances Control Law**

Deleterious

Chemical name	CAS No.	Category	Content rate %
2-mercaptoethanol	60-24-2	Deleterious substances (law art.2, attached table 2, designating order art.2)	0.0055900000

**4. First-aid measures****In case of inhalation**

Remove to fresh air.

**In case of skin contact**

Wash skin with soap and water.

**In case of eye contact**

Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

**In case of ingestion**

Rinse mouth.

**Most important symptoms/effects, acute and delayed**

No information available.

**Note to physicians**

Treat symptomatically.

**5. Fire-fighting measures**

<b>Suitable Extinguishing Media</b>	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
<b>Specific hazards arising from the chemical</b>	No information available.
<b>Special Extinguishing Media</b>	Cool drums with water spray.
<b>Special protective equipment and precautions for fire-fighters</b>	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.
<b>Other information</b>	CAUTION: Use of water spray when fighting fire may be inefficient.

## 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Ensure adequate ventilation.
<b>For emergency responders</b>	Use personal protection recommended in Section 8.
<b>Environmental precautions</b>	See Section 12 for additional Ecological Information.
<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

## 7. Handling and storage

### Handling

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice.

### Storage

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

## 8. Exposure controls/personal protection

<b>Exposure guidelines</b>	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
<b>Biological monitoring indicator</b>	This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies
<b>Engineering controls</b>	Showers Eyewash stations Ventilation systems.
<b>Environmental exposure controls</b>	No information available.
<b>Personal protective equipment</b>	
<b>Respiratory protection</b>	Appropriate respiratory protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction. If exposure limits are exceeded or irritation is experienced, ventilation and evacuation may be required.
<b>Hand protection</b>	Appropriate hand protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.
<b>Eye/face protection</b>	Appropriate eye/face protection should be selected and used according to the chemical

**Skin and body protection** nature, hazards and use of this product and safety requirements of the local jurisdiction. Appropriate skin and body protection should be selected and used according to the chemical nature, hazards and use of this product and safety requirements of the local jurisdiction.

## 9. Physical and chemical properties

### Information on basic physical and chemical properties

<b>Appearance</b>	No information available
<b>Physical state</b>	Liquid
<b>Color</b>	clear colorless
<b>Odor</b>	Odorless
<b>Odor threshold</b>	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>Melting point / freezing point</b>		No information available
<b>Initial boiling point and boiling range</b>		No information available
<b>Upper/lower flammability or explosive limits</b>		No information available
<b>Upper flammability or explosive limits</b>		
<b>Lower flammability or explosive limits</b>		
<b>Flash point</b>		No information available
<b>Evaporation rate</b>		No information available
<b>Autoignition temperature</b>		No information available
<b>Decomposition temperature</b>		No information available
<b>pH</b>	7 - 8.5	No information available
<b>Viscosity</b>		
<b>Water solubility</b>		No information available
<b>Solubility(ies)</b>		No information available
<b>Partition Coefficient (n-octanol/water)</b>		No information available
<b>Vapor pressure</b>		No information available
<b>Density and/or relative density</b>		
<b>Relative density</b>		No information available

### Other information

<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available

## 10. Stability and reactivity

<b>Reactivity</b>	No information available.
<b>Chemical stability</b>	Stable under normal conditions.
<b>Possibility of hazardous reactions</b>	None under normal processing.
<b>Conditions to avoid</b>	No information available.
<b>Incompatible materials</b>	None known based on information supplied.
<b>Hazardous decomposition products</b>	None known based on information supplied.

## 11. Toxicological information

### Acute toxicity

**Numerical measures of toxicity - Product Information**



The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	25,200.00 mg/kg
ATEmix (dermal)	20,000.00 mg/kg
ATEmix (inhalation-gas)	99,999.00 ppm
ATEmix (inhalation-vapor)	99,999.00 mg/l
ATEmix (inhalation-dust/mist)	5.50 mg/l

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
2-mercaptoethanol	= 244 mg/kg ( Rat )	112 - 224 mg/kg ( Rabbit )	-

**Symptoms** No information available.

**Ingestion** Specific test data for the substance or mixture is not available.

**Inhalation** Specific test data for the substance or mixture is not available.

**Skin contact** Specific test data for the substance or mixture is not available.

**Eye contact** Specific test data for the substance or mixture is not available.

## 12. Ecological information

**Ecotoxicity** Classification not possible. Based on available data, the classification criteria are not met.

Chemical name	Algae/aquatic plants	Fish	Crustacea
2-mercaptoethanol	EC50: =12mg/L (72h, <i>Desmodesmus subspicatus</i> )	-	EC50: =1.52mg/L (48h, <i>Daphnia magna</i> )

**Percentage for unknown hazards** 0 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

**Persistence and degradability** No information available.

**Bioaccumulation** There is no data for this product.

Chemical name	Partition coefficient
2-mercaptoethanol 60-24-2	-0.056

<b>Mobility in soil</b>	No information available.
<b>Hazardous to the ozone layer</b>	Classification not possible. Based on available data, the classification criteria are not met.
<b>Other adverse effects</b>	No information available.

### 13. Disposal considerations

<b>Waste from residues/unused products</b>	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
<b>Contaminated packaging</b>	Do not reuse empty containers.

### 14. Transport information

#### International Regulations

**IMDG** Not regulated

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

No information available

**ADR** Not regulated

**IATA** Not regulated

#### **Domestic regulations**

See section 15. If product is subject to the Fire Service Law, Poisonous and Deleterious Substance Control Law, High Pressure Gas Safety Law, Ship Safety Law, and/or the Civil Aeronautics Act, the requirements that are specific to each of the laws must be followed.

**Japan** Not regulated

### 15. Regulatory information

#### National regulations

##### **Industrial Safety and Health Law**

Not applicable

##### **ISHL Notifiable Substances**

Not applicable

##### **Harmful Substances Whose Names Are to be Indicated on the Label**

Not applicable

##### **Poisonous and Deleterious Substances Control Law**

Deleterious substances - Poisonous and Deleterious Substance Control Law table 2 and Cabinet Order article 2

##### **Fire Service Law:**

Not applicable

##### **Act on the Evaluation of Chemical Substances and Regulation of Their Manufacture, etc. (CSCL)**

Not applicable

##### **Act on Prevention of Marine Pollution and Maritime Disaster**

Not applicable

##### **Waterworks (Water Supply) Act**

Waterworks (Water Supply) Act - items that require further study

##### **Air Pollution Control Law**

Specified substances subject to measures in event of an accident per Air Pollution Control Law article 17, paragraph 1 and Enforcement Order article 10

Volatile organic compound per Air Pollution Control Law article 2, paragraph 4

Hazardous air pollutants (HAPs) per Air Pollution Control Law article 2, paragraph 1, item 3 and Enforcement Order article 1

**International Regulations**

**The Stockholm Convention on Persistent Organic Pollutants** Not applicable

**The Rotterdam Convention** Not applicable

**International Inventories**

<b>TSCA</b>	Does not comply
<b>DSL/NDSL</b>	Does not comply
<b>EINECS/ELINCS</b>	Does not comply
<b>ENCS</b>	Does not comply
<b>IECSC</b>	Does not comply
<b>KECI</b>	Does not comply
<b>PICCS</b>	Does not comply
<b>AIIC</b>	Does not comply
<b>NZIoC</b>	Does not comply
<b>TCSI</b>	TCSI

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECI** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AIIC** - Australian Inventory of Industrial Chemicals  
**NZIoC** - New Zealand Inventory of Chemicals  
**TCSI** - Taiwan Chemical Substance Inventory

**16. Other information**

**Prepared By** PacBio  
 Environment, Health, and Safety  
 1305 O'Brien Drive  
 Menlo Park, CA 94025  
 USA  
 safety@pacb.com  
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**Key or legend to abbreviations and acronyms used in the safety data sheet**

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	Ceiling	Maximum limit value
Sk*	Skin designation	+	Sensitizers

**Key literature references and sources for data used to compile the SDS**

Agency for Toxic Substances and Disease Registry (ATSDR)  
 U.S. Environmental Protection Agency ChemView Database  
 European Chemicals Agency  
 European Food Safety Authority (EFSA)  
 Environmental Protection Agency  
 Acute Exposure Guideline Level(s) (AEGl(s))  
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act  
 U.S. Environmental Protection Agency High Production Volume Chemicals  
 Food Research Journal  
 Hazardous Substance Database  
 International Uniform Chemical Information Database (IUCLID)  
 National Institute of Technology and Evaluation (NITE)  
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)  
 NIOSH (National Institute for Occupational Safety and Health)  
 National Library of Medicine's ChemID Plus (NLM CIP)  
 National Library of Medicine's PubMed database (NLM PUBMED)

U.S. National Toxicology Program (NTP)

New Zealand's Chemical Classification and Information Database (CCID)

Organization for Economic Co-operation and Development Environment, Health, and Safety Publications

Organization for Economic Co-operation and Development High Production Volume Chemicals Program

Organization for Economic Co-operation and Development Screening Information Data Set

World Health Organization

#### **Disclaimer**

**The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. It is not a warranty or quality specification. This information relates only to the specific material designated and may not be valid for use in combination with any other material or in any other process. Research use only. Not for use in diagnostic procedures. ©2024, Pacific Biosciences of California, Inc. ("PacBio"). All rights reserved. Information in this document is subject to change without notice. PacBio assumes no responsibility for any errors or omissions in this document. Certain notices, terms, conditions and/or use restrictions may pertain to your use of PacBio products and/or third-party products. Refer to the applicable PacBio terms and conditions of sale and to the applicable license terms at [pacb.com/license](http://pacb.com/license). Pacific Biosciences, the PacBio logo, PacBio, Circulomics, Omniome, SMRT, SMRTbell, Iso-Seq, Sequel, Nanobind, SBB, Revo, Onso, Apton, Kinnex and PureTarget are trademarks of PacBio.**

**End of Safety Data Sheet**