



## Safety Data Sheet

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### Identification of the substance or mixture

**Product code** 100042786  
**Product name** HIV Sequencing Mix F1

#### Company/undertaking identification

Life Technologies Corporation  
5781 Van Allen Way  
PO Box 6482  
Carlsbad, CA 92008  
+1 760 603 7200

Life Technologies  
5250 Mainway Drive  
Burlington, ONT  
CANADA L7L 6A4  
800/263-6236

**24 hour Emergency Response for Hazardous Materials [or Dangerous Goods] Incident. Spill, Leak, Fire, Exposure, or Accident. Call CHEMTREC** Within the USA + Canada: 1-800-424-9300 and 1-703-527-3887  
Outside the USA + Canada: 1-703-741-5970

**Country Specific Emergency Number (if available):**

**Research Use Only. Not for use in diagnostic procedures.**

### SECTION 2: Hazards identification

#### GHS Classification

**Signal Word**  
None

**Hazard pictograms**  
None

**Health hazards**  
Not Hazardous

**Physical hazards**  
Not Hazardous

**Environmental hazards**

Not Hazardous

**Hazard Statements**

Not Applicable

**Precautionary Statements****Prevention**

Not Applicable

**Response**

Not Applicable

**Storage**

Not Applicable

**Disposal**

Not Applicable

**Other hazards**

Contains a known or suspected endocrine disruptor

**HMIS**

|              |   |
|--------------|---|
| Health       | 0 |
| Flammability | 0 |
| Reactivity   | 0 |

**SECTION 3: Composition/information on ingredients**

| Chemical Name  | CAS No.   | Common name    | EINECS-No | Weight-% |
|----------------|-----------|----------------|-----------|----------|
| Triton X-100   | 9002-93-1 | Not applicable | 618-344-0 | <0.1     |
| Ethylene oxide | 75-21-8   | Not applicable | -         | <0.001   |
| Glycerol       | 56-81-5   | Not applicable | 200-289-5 | 3-7      |

We recommend handling all chemicals with caution.

## SECTION 4: First aid measures

### Description of first aid measures

|                           |   |
|---------------------------|---|
| <b>Skin contact</b>       | Rinse skin with water. Immediate medical attention is not required.   |
| <b>Eye contact</b>        | Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.                        |
| <b>Ingestion</b>          | Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice. |
| <b>Inhalation</b>         | Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.      |
| <b>Notes to Physician</b> | Treat symptomatically.  |

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

Not Applicable

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

None.

## SECTION 5: Firefighting measures

### Extinguishing media

|                                       |   |
|---------------------------------------|---|
| <b>Suitable extinguishing media</b>   | Water spray. Carbon dioxide (CO <sub>2</sub> ). Foam. Dry chemical. |
| <b>Unsuitable extinguishing media</b> | No information available.   |

### Special hazards arising from the substance or mixture

Not known

### Advice for firefighters

Standard procedure for chemical fires.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation  
Always wear recommended Personal Protective Equipment  
Use personal protection equipment  
See section 8 for more information

### Environmental precautions

Prevent product from entering drains. Do not allow material to contaminate ground water system.

### Methods and material for containment and cleaning up

Soak up with inert absorbent material.

### Reference to other sections

See section 8 for more information.

## SECTION 7: Handling and storage

### Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

### Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

### Specific end use(s)

For research use only.

## SECTION 8: Exposure controls/personal protection

### Control parameters

| Chemical Name  | OSHA PEL                                    | OSHA PEL (Ceiling) | ACGIH OEL (TWA) | ACGIH OEL (STEL) |
|----------------|---|--------------------|-----------------|------------------|
| Triton X-100   | None  | None               | None            | None             |
| Ethylene oxide | 1 ppm                                       | None               | 1 ppm           | None             |
| Glycerol       | 15 mg/m <sup>3</sup><br>5 mg/m <sup>3</sup> | None               | None            | None             |

| Chemical Name  | Brazil - OEL - TWAs (LTs)      | Brazil - OEL - Ceilings | Brazil - OEL - Skin Designations |
|----------------|--------------------------------|-------------------------|----------------------------------|
| Triton X-100   | None                           | None                    | None                             |
| Ethylene oxide | 39 ppm<br>70 mg/m <sup>3</sup> | None                    | None                             |
| Glycerol       | None                           | None                    | None                             |

### Engineering Measures

Ensure adequate ventilation, especially in confined areas.

### Exposure controls

#### Personal Protective Equipment

##### Respiratory protection

In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.

##### Hand protection

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

##### Eye protection

Tight sealing safety goggles.

##### Skin and Body Protection

Wear suitable protective clothing.

##### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

##### Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water system.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

|   |            |            |
|---|------------|------------|
| Physical state                            | liquid     |            |
| Color                                     | No data    |            |
| Odor                                      | No data    |            |
| Molecular Weight                          | No data    |            |
| Melting point / melting range             | °C No data | °F No data |
| Boiling point / boiling range             | °C No data | °F No data |
| Flammability (solid, gas)                 | No data    |            |
| Lower explosion limit                     | No data    |            |
| Upper explosion limit                     | No data    |            |
| Flash point                               | °C No data | °F No data |
| Autoignition Temperature                  | °C No data | °F No data |
| Decomposition temperature                 | °C No data | °F No data |
| pH  | 8.7        |            |
| Evaporation rate                          | No data    |            |
| Viscosity                                 | No data    |            |
| Solubility                                | No data    |            |
| Partition coefficient:<br>n-octanol/water | No data    |            |
| Vapor Pressure                            | No data    |            |
| Specific gravity                          | No data    |            |
| Relative density                          | No data    |            |
| Vapor density                             | No data    |            |
| Explosive properties                      | No data    |            |
| Oxidizing properties                      | No data    |            |
| Particle characteristics                  | No data    |            |

### Other information

#### Information with regard to physical hazard classes

No information available

#### Other safety characteristics

No information available

## SECTION 10: Stability and reactivity

|                                    |   |
|------------------------------------|---|
| Reactivity                         | None known.   |
| Chemical stability                 | Stable under normal conditions.                             |
| Possibility of hazardous reactions | Hazardous reaction has not been reported.                   |
| Conditions to avoid                | No information available.                                   |
| Incompatible materials             | No dangerous reaction known under conditions of normal use. |
| Hazardous decomposition products   | No data available.  |

## SECTION 11: Toxicological information

### Information on toxicological effects

| Chemical Name  | Oral LD50          | Dermal LD50       | Inhalation LC50   |
|----------------|--------------------|-------------------|-------------------|
| Triton X-100   | = 1800 mg/kg (Rat) | No data available | No data available |
| Ethylene oxide | = 72 mg/kg (Rat)   | No data available | =800ppm(Rat)      |
| Glycerol       | = 12600 mg/kg Oral | > 10 g/kg(Rabbit) | >2.75mg/L(Rat)    |

### Principal Routes of Exposure

**Acute toxicity** Data are conclusive but insufficient for classification.

**Skin corrosion/irritation** Data are conclusive but insufficient for classification

**Serious eye damage/irritation** Data are conclusive but insufficient for classification

**Respiratory or skin sensitization** Data are conclusive but insufficient for classification

**Specific target organ toxicity (STOT) – single exposure** Data are conclusive but insufficient for classification

**Specific target organ toxicity (STOT) – repeated exposure** Data are conclusive but insufficient for classification

**Carcinogenicity** Data are conclusive but insufficient for classification

**Germ cell mutagenicity** Data are conclusive but insufficient for classification

**Reproductive toxicity** Data are conclusive but insufficient for classification

**Aspiration hazard** Data are conclusive but insufficient for classification

## SECTION 12: Ecological information

### Toxicity

The environmental impact of this product has not been fully investigated.

| Chemical Name         | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates | Toxicity to fish  | Microtox Data     | log Pow           |
|-----------------------|-------------------|---|-------------------|-------------------|-------------------|
| <b>Triton X-100</b>   | No data available | No data available                                   | No data available | No data available | No data available |
| <b>Ethylene oxide</b> | No data available | Daphnia magna<br>LC50137 - 300 mg/L<br>(48 h)       | No data available | No data available | logPow-0.3        |
| <b>Glycerol</b>       | No data available | No data available                                   | No data available | No data available | logPow-1.76       |

**Mobility in soil** No information available.

**Persistence and degradability** No information available.

**Bioaccumulative potential** No information available.

### Results of PBT and vPvB assessment

No information available.

**Other adverse effects** Contains a known or suspected endocrine disruptor.

## SECTION 13: Disposal considerations

### Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations. Do not empty into drains. Do not dispose of waste into sewer.

## SECTION 14: Transport information

### IATA / ADR / DOT-US / IMDG

Not regulated in the meaning of transport regulations

|                                   |                |
|-----------------------------------|----------------|
| <b>UN number or ID number</b>     | Not Applicable |
| <b>UN proper shipping name</b>    | Not Applicable |
| <b>Transport hazard class(es)</b> | Not Applicable |
| <b>Packing group</b>              | Not Applicable |

### Environmental hazards

Not Applicable

### Special precautions for user

Not Applicable

### Maritime transport in bulk according to IMO instruments

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Product code 100042786

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Not Applicable.

#### SECTION 15: Regulatory information

| Component                            | US TSCA |
|--------------------------------------|---------|
| Triton X-100<br>9002-93-1 ( <0.1 )   | Listed  |
| Ethylene oxide<br>75-21-8 ( <0.001 ) | Listed  |
| Glycerol<br>56-81-5 ( 3-7 )          | Listed  |

#### US Federal Regulations

##### **SARA 313**

This product contains the following toxic chemical(s) subject to the notification requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. This law requires certain manufacturers to report on annual emissions of specified chemicals and chemical categories. Please note that if you repackage, or otherwise redistribute, this product to industrial customers, a notice similar to this one should be sent to those customers.

| <u>Chemical Name</u> | <u>CAS No.</u> | <u>Weight-%</u> | <u>SARA 313 - Threshold Values</u> |
|----------------------|----------------|-----------------|------------------------------------|
| Ethylene oxide       | 75-21-8        | <0.001          | 0.1                                |

##### **Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product contains the following HAPs

| <u>Component</u>                     | <u>CAS No.</u> | <u>Weight-%</u> | <u>HAPS data</u> |
|--------------------------------------|----------------|-----------------|------------------|
| Ethylene oxide<br>75-21-8 ( <0.001 ) | 75-21-8        | <0.001          | Present          |

#### US State Regulations

| Chemical Name  | Massachusetts - RTK<br>(Right-to-Know) | New Jersey - RTK<br>(Right-to-Know) | Pennsylvania - RTK<br>(Right-to-Know) |
|----------------|--|-------------------------------------|---------------------------------------|
| Ethylene oxide | Listed                                 | Listed                              | Listed                                |
| Glycerol       | Listed                                 | Listed                              | Listed                                |

##### **California Proposition 65**

This product contains the following Proposition 65 chemicals:

| <u>Chemical Name</u> | <u>CAS No.</u> | <u>Weight-%</u> | <u>Category</u>   |
|----------------------|----------------|-----------------|---|
| Ethylene oxide       | 75-21-8        | <0.001          | Carcinogen<br>Developmental<br>Female Reproductive<br>Male Reproductive |

##### **WHMIS Hazard Class**

Non-controlled

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.



## National Regulations - Brazil

| <u>Chemical Name</u> | <u>CAS No.</u> | <u>Brazil - National Agency for Sanitary Surveillance (ANVISA)</u> | <u>Brazil - National List of Carcinogen Agents to Humans (LINACH)</u> |
|----------------------|----------------|--|---|
| Triton X-100         | 9002-93-1      | Not Listed   | Not Listed  |
| Ethylene oxide       | 75-21-8        | Not Listed   | Group 1<br>Group 2A   |
| Glycerol             | 56-81-5        | Not Listed   | Not Listed  |

### SECTION 16: Other information

**Reason for revision** SDS sections updated.  
**Revision number** 5  
**Revision date** 22-Mar-2021

Research Use Only. Not for use in diagnostic procedures.

#### References

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database: <https://www.chemadvisor.com/loli-database>

#### Abbreviations and acronyms

**TWA** - Time-Weighted Average  
**OELs** - Occupational Exposure Limits  
**STEL** - Short Term Exposure Limit  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**CEPA** - Canadian Environmental Protection Act  
**EPA** - Environmental Protection Agency  
**OSHA** - Occupational Safety and Health Administration of the US Department of Labor  
**IATA** - International Air Transport Association  
**DOT** - Department of Transportation  
**IMDG** - International Maritime Dangerous Goods  
**ACGIH** - American Conference of Governmental Industrial Hygienists  
**NIOSH** - National Institute for Occupational Safety and Health  
**AIHA** - American Industrial Hygiene Association  
**HMIS** - Department of Defense Hazardous Materials Information System  
**NTP** - National Toxicology Program  
**IARC** - International Agency for Research on Cancer

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR

IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

**End of Safety Data Sheet**

## Safety Data Sheet

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### Identification of the substance or mixture

**Product code** 100042787  
**Product name** HIV Sequencing Mix F2

#### Company/undertaking identification

Life Technologies Corporation  
5781 Van Allen Way  
PO Box 6482  
Carlsbad, CA 92008  
+1 760 603 7200

Life Technologies  
5250 Mainway Drive  
Burlington, ONT  
CANADA L7L 6A4  
800/263-6236

**24 hour Emergency Response for Hazardous Materials [or Dangerous Goods] Incident. Spill, Leak, Fire, Exposure, or Accident. Call CHEMTREC** Within the USA + Canada: 1-800-424-9300 and 1-703-527-3887  
Outside the USA + Canada: 1-703-741-5970

**Country Specific Emergency Number (if available):**

**Research Use Only. Not for use in diagnostic procedures.**

### SECTION 2: Hazards identification

#### GHS Classification

**Signal Word**  
None

**Hazard pictograms**  
None

**Health hazards**  
Not Hazardous

**Physical hazards**  
Not Hazardous

**Environmental hazards**

Not Hazardous

**Hazard Statements**

Not Applicable

**Precautionary Statements****Prevention**

Not Applicable

**Response**

Not Applicable

**Storage**

Not Applicable

**Disposal**

Not Applicable

**Other hazards**

Contains a known or suspected endocrine disruptor

**HMIS**

|              |   |
|--------------|---|
| Health       | 0 |
| Flammability | 0 |
| Reactivity   | 0 |

**SECTION 3: Composition/information on ingredients**

| Chemical Name  | CAS No.   | Common name    | EINECS-No | Weight-% |
|----------------|-----------|----------------|-----------|----------|
| Triton X-100   | 9002-93-1 | Not applicable | 618-344-0 | <0.1     |
| Ethylene oxide | 75-21-8   | Not applicable | -         | <0.001   |
| Glycerol       | 56-81-5   | Not applicable | 200-289-5 | 3-7      |

We recommend handling all chemicals with caution.

## SECTION 4: First aid measures

### Description of first aid measures

|                           |   |
|---------------------------|---|
| <b>Skin contact</b>       | Rinse skin with water. Immediate medical attention is not required.   |
| <b>Eye contact</b>        | Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.                        |
| <b>Ingestion</b>          | Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice. |
| <b>Inhalation</b>         | Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.      |
| <b>Notes to Physician</b> | Treat symptomatically.  |

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

Not Applicable

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

None.

## SECTION 5: Firefighting measures

### Extinguishing media

|                                       |   |
|---------------------------------------|---|
| <b>Suitable extinguishing media</b>   | Water spray. Carbon dioxide (CO <sub>2</sub> ). Foam. Dry chemical. |
| <b>Unsuitable extinguishing media</b> | No information available.   |

### Special hazards arising from the substance or mixture

Not known

### Advice for firefighters

Standard procedure for chemical fires.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation  
Always wear recommended Personal Protective Equipment  
Use personal protection equipment  
See section 8 for more information

### Environmental precautions

Prevent product from entering drains. Do not allow material to contaminate ground water system.

### Methods and material for containment and cleaning up

Soak up with inert absorbent material.

### Reference to other sections

See section 8 for more information.

## SECTION 7: Handling and storage

### Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

### Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

### Specific end use(s)

For research use only.

## SECTION 8: Exposure controls/personal protection

### Control parameters

| Chemical Name  | OSHA PEL                                    | OSHA PEL (Ceiling) | ACGIH OEL (TWA) | ACGIH OEL (STEL) |
|----------------|---|--------------------|-----------------|------------------|
| Triton X-100   | None  | None               | None            | None             |
| Ethylene oxide | 1 ppm                                       | None               | 1 ppm           | None             |
| Glycerol       | 15 mg/m <sup>3</sup><br>5 mg/m <sup>3</sup> | None               | None            | None             |

| Chemical Name  | Brazil - OEL - TWAs (LTs)      | Brazil - OEL - Ceilings | Brazil - OEL - Skin Designations |
|----------------|--------------------------------|-------------------------|----------------------------------|
| Triton X-100   | None                           | None                    | None                             |
| Ethylene oxide | 39 ppm<br>70 mg/m <sup>3</sup> | None                    | None                             |
| Glycerol       | None                           | None                    | None                             |

### Engineering Measures

Ensure adequate ventilation, especially in confined areas.

### Exposure controls

#### Personal Protective Equipment

##### Respiratory protection

In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.

##### Hand protection

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

##### Eye protection

Tight sealing safety goggles.

##### Skin and Body Protection

Wear suitable protective clothing.

##### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

##### Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water system.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

|   |            |            |
|---|------------|------------|
| Physical state                            | liquid     |            |
| Color                                     | No data    |            |
| Odor                                      | No data    |            |
| Molecular Weight                          | No data    |            |
| Melting point / melting range             | °C No data | °F No data |
| Boiling point / boiling range             | °C No data | °F No data |
| Flammability (solid, gas)                 | No data    |            |
| Lower explosion limit                     | No data    |            |
| Upper explosion limit                     | No data    |            |
| Flash point                               | °C No data | °F No data |
| Autoignition Temperature                  | °C No data | °F No data |
| Decomposition temperature                 | °C No data | °F No data |
| pH  | 8.7        |            |
| Evaporation rate                          | No data    |            |
| Viscosity                                 | No data    |            |
| Solubility                                | No data    |            |
| Partition coefficient:<br>n-octanol/water | No data    |            |
| Vapor Pressure                            | No data    |            |
| Specific gravity                          | No data    |            |
| Relative density                          | No data    |            |
| Vapor density                             | No data    |            |
| Explosive properties                      | No data    |            |
| Oxidizing properties                      | No data    |            |
| Particle characteristics                  | No data    |            |

### Other information

#### Information with regard to physical hazard classes

No information available

#### Other safety characteristics

No information available

## SECTION 10: Stability and reactivity

|                                    |   |
|------------------------------------|---|
| Reactivity                         | None known.   |
| Chemical stability                 | Stable under normal conditions.                             |
| Possibility of hazardous reactions | Hazardous reaction has not been reported.                   |
| Conditions to avoid                | No information available.                                   |
| Incompatible materials             | No dangerous reaction known under conditions of normal use. |
| Hazardous decomposition products   | No data available.  |

## SECTION 11: Toxicological information

### Information on toxicological effects

| Chemical Name  | Oral LD50          | Dermal LD50       | Inhalation LC50   |
|----------------|--------------------|-------------------|-------------------|
| Triton X-100   | = 1800 mg/kg (Rat) | No data available | No data available |
| Ethylene oxide | = 72 mg/kg (Rat)   | No data available | =800ppm(Rat)      |
| Glycerol       | = 12600 mg/kg Oral | > 10 g/kg(Rabbit) | >2.75mg/L(Rat)    |

### Principal Routes of Exposure

**Acute toxicity** Data are conclusive but insufficient for classification.

**Skin corrosion/irritation** Data are conclusive but insufficient for classification

**Serious eye damage/irritation** Data are conclusive but insufficient for classification

**Respiratory or skin sensitization** Data are conclusive but insufficient for classification

**Specific target organ toxicity (STOT) – single exposure** Data are conclusive but insufficient for classification

**Specific target organ toxicity (STOT) – repeated exposure** Data are conclusive but insufficient for classification

**Carcinogenicity** Data are conclusive but insufficient for classification

**Germ cell mutagenicity** Data are conclusive but insufficient for classification

**Reproductive toxicity** Data are conclusive but insufficient for classification

**Aspiration hazard** Data are conclusive but insufficient for classification



## SECTION 12: Ecological information

### Toxicity

The environmental impact of this product has not been fully investigated.

| Chemical Name         | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates | Toxicity to fish  | Microtox Data     | log Pow           |
|-----------------------|-------------------|---|-------------------|-------------------|-------------------|
| <b>Triton X-100</b>   | No data available | No data available                                   | No data available | No data available | No data available |
| <b>Ethylene oxide</b> | No data available | Daphnia magna<br>LC50137 - 300 mg/L<br>(48 h)       | No data available | No data available | logPow-0.3        |
| <b>Glycerol</b>       | No data available | No data available                                   | No data available | No data available | logPow-1.76       |

**Mobility in soil** No information available.

**Persistence and degradability** No information available.

**Bioaccumulative potential** No information available.

### Results of PBT and vPvB assessment

No information available.

**Other adverse effects** Contains a known or suspected endocrine disruptor.

## SECTION 13: Disposal considerations

### Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations. Do not empty into drains. Do not dispose of waste into sewer.

## SECTION 14: Transport information

### IATA / ADR / DOT-US / IMDG

Not regulated in the meaning of transport regulations

|                                   |                |
|-----------------------------------|----------------|
| <b>UN number or ID number</b>     | Not Applicable |
| <b>UN proper shipping name</b>    | Not Applicable |
| <b>Transport hazard class(es)</b> | Not Applicable |
| <b>Packing group</b>              | Not Applicable |

### Environmental hazards

Not Applicable

### Special precautions for user

Not Applicable

### Maritime transport in bulk according to IMO instruments

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Product code 100042787

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Product name HIV Sequencing Mix F2

Not Applicable.

#### SECTION 15: Regulatory information

| Component                            | US TSCA |
|--------------------------------------|---------|
| Triton X-100<br>9002-93-1 ( <0.1 )   | Listed  |
| Ethylene oxide<br>75-21-8 ( <0.001 ) | Listed  |
| Glycerol<br>56-81-5 ( 3-7 )          | Listed  |

#### US Federal Regulations

##### **SARA 313**

This product contains the following toxic chemical(s) subject to the notification requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. This law requires certain manufacturers to report on annual emissions of specified chemicals and chemical categories. Please note that if you repackage, or otherwise redistribute, this product to industrial customers, a notice similar to this one should be sent to those customers.

| <u>Chemical Name</u> | <u>CAS No.</u> | <u>Weight-%</u> | <u>SARA 313 - Threshold Values</u> |
|----------------------|----------------|-----------------|------------------------------------|
| Ethylene oxide       | 75-21-8        | <0.001          | 0.1                                |

##### **Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product contains the following HAPs

| <u>Component</u>                     | <u>CAS No.</u> | <u>Weight-%</u> | <u>HAPS data</u> |
|--------------------------------------|----------------|-----------------|------------------|
| Ethylene oxide<br>75-21-8 ( <0.001 ) | 75-21-8        | <0.001          | Present          |

#### US State Regulations

| <u>Chemical Name</u> | <u>Massachusetts - RTK (Right-to-Know)</u> | <u>New Jersey - RTK (Right-to-Know)</u> | <u>Pennsylvania - RTK (Right-to-Know)</u> |
|----------------------|--|---|---|
| Ethylene oxide       | Listed                                     | Listed                                  | Listed                                    |
| Glycerol             | Listed                                     | Listed                                  | Listed                                    |

##### **California Proposition 65**

This product contains the following Proposition 65 chemicals:

| <u>Chemical Name</u> | <u>CAS No.</u> | <u>Weight-%</u> | <u>Category</u>   |
|----------------------|----------------|-----------------|---|
| Ethylene oxide       | 75-21-8        | <0.001          | Carcinogen<br>Developmental<br>Female Reproductive<br>Male Reproductive |

##### **WHMIS Hazard Class**

Non-controlled

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

## National Regulations - Brazil

| Chemical Name  | CAS No.   | Brazil - National Agency for Sanitary Surveillance (ANVISA) | Brazil - National List of Carcinogen Agents to Humans (LINACH) |
|----------------|-----------|---|--|
| Triton X-100   | 9002-93-1 | Not Listed  | Not Listed   |
| Ethylene oxide | 75-21-8   | Not Listed  | Group 1<br>Group 2A  |
| Glycerol       | 56-81-5   | Not Listed  | Not Listed   |

### SECTION 16: Other information

**Reason for revision** SDS sections updated.  
**Revision number** 5  
**Revision date** 22-Mar-2021

Research Use Only. Not for use in diagnostic procedures.

#### References

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database: <https://www.chemadvisor.com/loli-database>

#### Abbreviations and acronyms

**TWA** - Time-Weighted Average  
**OELs** - Occupational Exposure Limits  
**STEL** - Short Term Exposure Limit  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**CEPA** - Canadian Environmental Protection Act  
**EPA** - Environmental Protection Agency  
**OSHA** - Occupational Safety and Health Administration of the US Department of Labor  
**IATA** - International Air Transport Association  
**DOT** - Department of Transportation  
**IMDG** - International Maritime Dangerous Goods  
**ACGIH** - American Conference of Governmental Industrial Hygienists  
**NIOSH** - National Institute for Occupational Safety and Health  
**AIHA** - American Industrial Hygiene Association  
**HMIS** - Department of Defense Hazardous Materials Information System  
**NTP** - National Toxicology Program  
**IARC** - International Agency for Research on Cancer

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR

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**Product name** HIV Sequencing Mix F2

IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

**End of Safety Data Sheet**

## Safety Data Sheet

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### Identification of the substance or mixture

**Product code** 100042788  
**Product name** HIV Sequencing Mix F3

#### Company/undertaking identification

Life Technologies Corporation  
5781 Van Allen Way  
PO Box 6482  
Carlsbad, CA 92008  
+1 760 603 7200

Life Technologies  
5250 Mainway Drive  
Burlington, ONT  
CANADA L7L 6A4  
800/263-6236

**24 hour Emergency Response for Hazardous Materials [or Dangerous Goods] Incident. Spill, Leak, Fire, Exposure, or Accident. Call CHEMTREC** Within the USA + Canada: 1-800-424-9300 and 1-703-527-3887  
Outside the USA + Canada: 1-703-741-5970

**Country Specific Emergency Number (if available):**

**Research Use Only. Not for use in diagnostic procedures.**

### SECTION 2: Hazards identification

#### GHS Classification

**Signal Word**  
None

**Hazard pictograms**  
None

**Health hazards**  
Not Hazardous

**Physical hazards**  
Not Hazardous

**Environmental hazards**

Not Hazardous

**Hazard Statements**

Not Applicable

**Precautionary Statements****Prevention**

Not Applicable

**Response**

Not Applicable

**Storage**

Not Applicable

**Disposal**

Not Applicable

**Other hazards**

Contains a known or suspected endocrine disruptor

**HMIS**

|              |   |
|--------------|---|
| Health       | 0 |
| Flammability | 0 |
| Reactivity   | 0 |

**SECTION 3: Composition/information on ingredients**

| Chemical Name  | CAS No.   | Common name    | EINECS-No | Weight-% |
|----------------|-----------|----------------|-----------|----------|
| Triton X-100   | 9002-93-1 | Not applicable | 618-344-0 | <0.1     |
| Ethylene oxide | 75-21-8   | Not applicable | -         | <0.001   |
| Glycerol       | 56-81-5   | Not applicable | 200-289-5 | 3-7      |

We recommend handling all chemicals with caution.

## SECTION 4: First aid measures

### Description of first aid measures

|                           |   |
|---------------------------|---|
| <b>Skin contact</b>       | Rinse skin with water. Immediate medical attention is not required.   |
| <b>Eye contact</b>        | Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.                        |
| <b>Ingestion</b>          | Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice. |
| <b>Inhalation</b>         | Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.      |
| <b>Notes to Physician</b> | Treat symptomatically.  |

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

Not Applicable

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

None.

## SECTION 5: Firefighting measures

### Extinguishing media

|                                       |   |
|---------------------------------------|---|
| <b>Suitable extinguishing media</b>   | Water spray. Carbon dioxide (CO <sub>2</sub> ). Foam. Dry chemical. |
| <b>Unsuitable extinguishing media</b> | No information available.   |

### Special hazards arising from the substance or mixture

Not known

### Advice for firefighters

Standard procedure for chemical fires.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation  
Always wear recommended Personal Protective Equipment  
Use personal protection equipment  
See section 8 for more information

### Environmental precautions

Prevent product from entering drains. Do not allow material to contaminate ground water system.

### Methods and material for containment and cleaning up

Soak up with inert absorbent material.

### Reference to other sections

See section 8 for more information.

## SECTION 7: Handling and storage

### Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

### Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

### Specific end use(s)

For research use only.

## SECTION 8: Exposure controls/personal protection

### Control parameters

| Chemical Name  | OSHA PEL                                    | OSHA PEL (Ceiling) | ACGIH OEL (TWA) | ACGIH OEL (STEL) |
|----------------|---|--------------------|-----------------|------------------|
| Triton X-100   | None  | None               | None            | None             |
| Ethylene oxide | 1 ppm                                       | None               | 1 ppm           | None             |
| Glycerol       | 15 mg/m <sup>3</sup><br>5 mg/m <sup>3</sup> | None               | None            | None             |

| Chemical Name  | Brazil - OEL - TWAs (LTs)      | Brazil - OEL - Ceilings | Brazil - OEL - Skin Designations |
|----------------|--------------------------------|-------------------------|----------------------------------|
| Triton X-100   | None                           | None                    | None                             |
| Ethylene oxide | 39 ppm<br>70 mg/m <sup>3</sup> | None                    | None                             |
| Glycerol       | None                           | None                    | None                             |

### Engineering Measures

Ensure adequate ventilation, especially in confined areas.

### Exposure controls

#### Personal Protective Equipment

##### Respiratory protection

In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.

##### Hand protection

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

##### Eye protection

Tight sealing safety goggles.

##### Skin and Body Protection

Wear suitable protective clothing.

##### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

##### Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water system.



## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

|   |            |            |
|---|------------|------------|
| Physical state                            | liquid     |            |
| Color                                     | No data    |            |
| Odor                                      | No data    |            |
| Molecular Weight                          | No data    |            |
| Melting point / melting range             | °C No data | °F No data |
| Boiling point / boiling range             | °C No data | °F No data |
| Flammability (solid, gas)                 | No data    |            |
| Lower explosion limit                     | No data    |            |
| Upper explosion limit                     | No data    |            |
| Flash point                               | °C No data | °F No data |
| Autoignition Temperature                  | °C No data | °F No data |
| Decomposition temperature                 | °C No data | °F No data |
| pH  | 8.7        |            |
| Evaporation rate                          | No data    |            |
| Viscosity                                 | No data    |            |
| Solubility                                | No data    |            |
| Partition coefficient:<br>n-octanol/water | No data    |            |
| Vapor Pressure                            | No data    |            |
| Specific gravity                          | No data    |            |
| Relative density                          | No data    |            |
| Vapor density                             | No data    |            |
| Explosive properties                      | No data    |            |
| Oxidizing properties                      | No data    |            |
| Particle characteristics                  | No data    |            |

### Other information

#### Information with regard to physical hazard classes

No information available

#### Other safety characteristics

No information available

## SECTION 10: Stability and reactivity

|                                    |   |
|------------------------------------|---|
| Reactivity                         | None known.   |
| Chemical stability                 | Stable under normal conditions.                             |
| Possibility of hazardous reactions | Hazardous reaction has not been reported.                   |
| Conditions to avoid                | No information available.                                   |
| Incompatible materials             | No dangerous reaction known under conditions of normal use. |
| Hazardous decomposition products   | No data available.  |

## SECTION 11: Toxicological information

### Information on toxicological effects

| Chemical Name  | Oral LD50          | Dermal LD50       | Inhalation LC50   |
|----------------|--------------------|-------------------|-------------------|
| Triton X-100   | = 1800 mg/kg (Rat) | No data available | No data available |
| Ethylene oxide | = 72 mg/kg (Rat)   | No data available | =800ppm(Rat)      |
| Glycerol       | = 12600 mg/kg Oral | > 10 g/kg(Rabbit) | >2.75mg/L(Rat)    |

### Principal Routes of Exposure

**Acute toxicity** Data are conclusive but insufficient for classification.

**Skin corrosion/irritation** Data are conclusive but insufficient for classification

**Serious eye damage/irritation** Data are conclusive but insufficient for classification

**Respiratory or skin sensitization** Data are conclusive but insufficient for classification

**Specific target organ toxicity (STOT) – single exposure** Data are conclusive but insufficient for classification

**Specific target organ toxicity (STOT) – repeated exposure** Data are conclusive but insufficient for classification

**Carcinogenicity** Data are conclusive but insufficient for classification

**Germ cell mutagenicity** Data are conclusive but insufficient for classification

**Reproductive toxicity** Data are conclusive but insufficient for classification

**Aspiration hazard** Data are conclusive but insufficient for classification

## SECTION 12: Ecological information

### Toxicity

The environmental impact of this product has not been fully investigated.

| Chemical Name         | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates | Toxicity to fish  | Microtox Data     | log Pow           |
|-----------------------|-------------------|---|-------------------|-------------------|-------------------|
| <b>Triton X-100</b>   | No data available | No data available                                   | No data available | No data available | No data available |
| <b>Ethylene oxide</b> | No data available | Daphnia magna<br>LC50137 - 300 mg/L<br>(48 h)       | No data available | No data available | logPow-0.3        |
| <b>Glycerol</b>       | No data available | No data available                                   | No data available | No data available | logPow-1.76       |

**Mobility in soil** No information available.

**Persistence and degradability** No information available.

**Bioaccumulative potential** No information available.

### Results of PBT and vPvB assessment

No information available.

**Other adverse effects** Contains a known or suspected endocrine disruptor.

## SECTION 13: Disposal considerations

### Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations. Do not empty into drains. Do not dispose of waste into sewer.

## SECTION 14: Transport information

### IATA / ADR / DOT-US / IMDG

Not regulated in the meaning of transport regulations

|                                   |                |
|-----------------------------------|----------------|
| <b>UN number or ID number</b>     | Not Applicable |
| <b>UN proper shipping name</b>    | Not Applicable |
| <b>Transport hazard class(es)</b> | Not Applicable |
| <b>Packing group</b>              | Not Applicable |

### Environmental hazards

Not Applicable

### Special precautions for user

Not Applicable

### Maritime transport in bulk according to IMO instruments

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Not Applicable.

#### SECTION 15: Regulatory information

| Component                            | US TSCA |
|--------------------------------------|---------|
| Triton X-100<br>9002-93-1 ( <0.1 )   | Listed  |
| Ethylene oxide<br>75-21-8 ( <0.001 ) | Listed  |
| Glycerol<br>56-81-5 ( 3-7 )          | Listed  |

#### US Federal Regulations

##### **SARA 313**

This product contains the following toxic chemical(s) subject to the notification requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. This law requires certain manufacturers to report on annual emissions of specified chemicals and chemical categories. Please note that if you repackage, or otherwise redistribute, this product to industrial customers, a notice similar to this one should be sent to those customers.

| <u>Chemical Name</u> | <u>CAS No.</u> | <u>Weight-%</u> | <u>SARA 313 - Threshold Values</u> |
|----------------------|----------------|-----------------|------------------------------------|
| Ethylene oxide       | 75-21-8        | <0.001          | 0.1                                |

##### **Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product contains the following HAPs

| <u>Component</u>                     | <u>CAS No.</u> | <u>Weight-%</u> | <u>HAPS data</u> |
|--------------------------------------|----------------|-----------------|------------------|
| Ethylene oxide<br>75-21-8 ( <0.001 ) | 75-21-8        | <0.001          | Present          |

#### US State Regulations

| <u>Chemical Name</u> | <u>Massachusetts - RTK (Right-to-Know)</u> | <u>New Jersey - RTK (Right-to-Know)</u> | <u>Pennsylvania - RTK (Right-to-Know)</u> |
|----------------------|--|---|---|
| Ethylene oxide       | Listed                                     | Listed                                  | Listed                                    |
| Glycerol             | Listed                                     | Listed                                  | Listed                                    |

##### **California Proposition 65**

This product contains the following Proposition 65 chemicals:

| <u>Chemical Name</u> | <u>CAS No.</u> | <u>Weight-%</u> | <u>Category</u>   |
|----------------------|----------------|-----------------|---|
| Ethylene oxide       | 75-21-8        | <0.001          | Carcinogen<br>Developmental<br>Female Reproductive<br>Male Reproductive |

##### **WHMIS Hazard Class**

Non-controlled

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

## National Regulations - Brazil

| <u>Chemical Name</u> | <u>CAS No.</u> | <u>Brazil - National Agency for Sanitary Surveillance (ANVISA)</u> | <u>Brazil - National List of Carcinogen Agents to Humans (LINACH)</u> |
|----------------------|----------------|--|---|
| Triton X-100         | 9002-93-1      | Not Listed   | Not Listed  |
| Ethylene oxide       | 75-21-8        | Not Listed   | Group 1<br>Group 2A   |
| Glycerol             | 56-81-5        | Not Listed   | Not Listed  |

### SECTION 16: Other information

**Reason for revision** SDS sections updated.  
**Revision number** 5  
**Revision date** 22-Mar-2021

Research Use Only. Not for use in diagnostic procedures.

#### References

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database: <https://www.chemadvisor.com/loli-database>

#### Abbreviations and acronyms

**TWA** - Time-Weighted Average  
**OELs** - Occupational Exposure Limits  
**STEL** - Short Term Exposure Limit  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**CEPA** - Canadian Environmental Protection Act  
**EPA** - Environmental Protection Agency  
**OSHA** - Occupational Safety and Health Administration of the US Department of Labor  
**IATA** - International Air Transport Association  
**DOT** - Department of Transportation  
**IMDG** - International Maritime Dangerous Goods  
**ACGIH** - American Conference of Governmental Industrial Hygienists  
**NIOSH** - National Institute for Occupational Safety and Health  
**AIHA** - American Industrial Hygiene Association  
**HMIS** - Department of Defense Hazardous Materials Information System  
**NTP** - National Toxicology Program  
**IARC** - International Agency for Research on Cancer

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IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

**End of Safety Data Sheet**

## Safety Data Sheet

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### Identification of the substance or mixture

**Product code** 100042789  
**Product name** HIV Sequencing Mix R1

#### Company/undertaking identification

Life Technologies Corporation  
5781 Van Allen Way  
PO Box 6482  
Carlsbad, CA 92008  
+1 760 603 7200

Life Technologies  
5250 Mainway Drive  
Burlington, ONT  
CANADA L7L 6A4  
800/263-6236

**24 hour Emergency Response for Hazardous Materials [or Dangerous Goods] Incident. Spill, Leak, Fire, Exposure, or Accident. Call CHEMTREC** Within the USA + Canada: 1-800-424-9300 and 1-703-527-3887  
Outside the USA + Canada: 1-703-741-5970

**Country Specific Emergency Number (if available):**

**Research Use Only. Not for use in diagnostic procedures.**

### SECTION 2: Hazards identification

#### GHS Classification

**Signal Word**  
None

**Hazard pictograms**  
None

**Health hazards**  
Not Hazardous

**Physical hazards**  
Not Hazardous

**Environmental hazards**

Not Hazardous

**Hazard Statements**

Not Applicable

**Precautionary Statements****Prevention**

Not Applicable

**Response**

Not Applicable

**Storage**

Not Applicable

**Disposal**

Not Applicable

**Other hazards**

Contains a known or suspected endocrine disruptor

**HMIS**

|              |   |
|--------------|---|
| Health       | 0 |
| Flammability | 0 |
| Reactivity   | 0 |

**SECTION 3: Composition/information on ingredients**

| Chemical Name  | CAS No.   | Common name    | EINECS-No | Weight-% |
|----------------|-----------|----------------|-----------|----------|
| Triton X-100   | 9002-93-1 | Not applicable | 618-344-0 | <0.1     |
| Ethylene oxide | 75-21-8   | Not applicable | -         | <0.001   |
| Glycerol       | 56-81-5   | Not applicable | 200-289-5 | 3-7      |

We recommend handling all chemicals with caution.



## SECTION 4: First aid measures

### Description of first aid measures

|                           |   |
|---------------------------|---|
| <b>Skin contact</b>       | Rinse skin with water. Immediate medical attention is not required.   |
| <b>Eye contact</b>        | Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.                        |
| <b>Ingestion</b>          | Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice. |
| <b>Inhalation</b>         | Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.      |
| <b>Notes to Physician</b> | Treat symptomatically.  |

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

Not Applicable

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

None.

## SECTION 5: Firefighting measures

### Extinguishing media

|                                       |   |
|---------------------------------------|---|
| <b>Suitable extinguishing media</b>   | Water spray. Carbon dioxide (CO <sub>2</sub> ). Foam. Dry chemical. |
| <b>Unsuitable extinguishing media</b> | No information available.   |

### Special hazards arising from the substance or mixture

Not known

### Advice for firefighters

Standard procedure for chemical fires.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation  
Always wear recommended Personal Protective Equipment  
Use personal protection equipment  
See section 8 for more information

### Environmental precautions

Prevent product from entering drains. Do not allow material to contaminate ground water system.

### Methods and material for containment and cleaning up

Soak up with inert absorbent material.

### Reference to other sections

See section 8 for more information.

## SECTION 7: Handling and storage

### Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

### Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

### Specific end use(s)

For research use only.

## SECTION 8: Exposure controls/personal protection

### Control parameters

| Chemical Name  | OSHA PEL                                    | OSHA PEL (Ceiling) | ACGIH OEL (TWA) | ACGIH OEL (STEL) |
|----------------|---|--------------------|-----------------|------------------|
| Triton X-100   | None  | None               | None            | None             |
| Ethylene oxide | 1 ppm                                       | None               | 1 ppm           | None             |
| Glycerol       | 15 mg/m <sup>3</sup><br>5 mg/m <sup>3</sup> | None               | None            | None             |

| Chemical Name  | Brazil - OEL - TWAs (LTs)      | Brazil - OEL - Ceilings | Brazil - OEL - Skin Designations |
|----------------|--------------------------------|-------------------------|----------------------------------|
| Triton X-100   | None                           | None                    | None                             |
| Ethylene oxide | 39 ppm<br>70 mg/m <sup>3</sup> | None                    | None                             |
| Glycerol       | None                           | None                    | None                             |

### Engineering Measures

Ensure adequate ventilation, especially in confined areas.

### Exposure controls

#### Personal Protective Equipment

##### Respiratory protection

In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.

##### Hand protection

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

##### Eye protection

Tight sealing safety goggles.

##### Skin and Body Protection

Wear suitable protective clothing.

##### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

##### Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water system.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

|   |            |            |
|---|------------|------------|
| Physical state                            | liquid     |            |
| Color                                     | No data    |            |
| Odor                                      | No data    |            |
| Molecular Weight                          | No data    |            |
| Melting point / melting range             | °C No data | °F No data |
| Boiling point / boiling range             | °C No data | °F No data |
| Flammability (solid, gas)                 | No data    |            |
| Lower explosion limit                     | No data    |            |
| Upper explosion limit                     | No data    |            |
| Flash point                               | °C No data | °F No data |
| Autoignition Temperature                  | °C No data | °F No data |
| Decomposition temperature                 | °C No data | °F No data |
| pH  | 8.7        |            |
| Evaporation rate                          | No data    |            |
| Viscosity                                 | No data    |            |
| Solubility                                | No data    |            |
| Partition coefficient:<br>n-octanol/water | No data    |            |
| Vapor Pressure                            | No data    |            |
| Specific gravity                          | No data    |            |
| Relative density                          | No data    |            |
| Vapor density                             | No data    |            |
| Explosive properties                      | No data    |            |
| Oxidizing properties                      | No data    |            |
| Particle characteristics                  | No data    |            |

### Other information

#### Information with regard to physical hazard classes

No information available

#### Other safety characteristics

No information available

## SECTION 10: Stability and reactivity

|                                    |   |
|------------------------------------|---|
| Reactivity                         | None known.   |
| Chemical stability                 | Stable under normal conditions.                             |
| Possibility of hazardous reactions | Hazardous reaction has not been reported.                   |
| Conditions to avoid                | No information available.                                   |
| Incompatible materials             | No dangerous reaction known under conditions of normal use. |
| Hazardous decomposition products   | No data available.  |

## SECTION 11: Toxicological information

### Information on toxicological effects

| Chemical Name  | Oral LD50          | Dermal LD50       | Inhalation LC50   |
|----------------|--------------------|-------------------|-------------------|
| Triton X-100   | = 1800 mg/kg (Rat) | No data available | No data available |
| Ethylene oxide | = 72 mg/kg (Rat)   | No data available | =800ppm(Rat)      |
| Glycerol       | = 12600 mg/kg Oral | > 10 g/kg(Rabbit) | >2.75mg/L(Rat)    |

### Principal Routes of Exposure

|  |  |
|--|--|
| <b>Acute toxicity</b>  | Data are conclusive but insufficient for classification. |
| <b>Skin corrosion/irritation</b>                                 | Data are conclusive but insufficient for classification  |
| <b>Serious eye damage/irritation</b>                             | Data are conclusive but insufficient for classification  |
| <b>Respiratory or skin sensitization</b>                         | Data are conclusive but insufficient for classification  |
| <b>Specific target organ toxicity (STOT) – single exposure</b>   | Data are conclusive but insufficient for classification  |
| <b>Specific target organ toxicity (STOT) – repeated exposure</b> | Data are conclusive but insufficient for classification  |
| <b>Carcinogenicity</b>   | Data are conclusive but insufficient for classification  |
| <b>Germ cell mutagenicity</b>                                    | Data are conclusive but insufficient for classification  |
| <b>Reproductive toxicity</b>                                     | Data are conclusive but insufficient for classification  |
| <b>Aspiration hazard</b>   | Data are conclusive but insufficient for classification  |

## SECTION 12: Ecological information

### Toxicity

The environmental impact of this product has not been fully investigated.

| Chemical Name         | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates | Toxicity to fish  | Microtox Data     | log Pow           |
|-----------------------|-------------------|---|-------------------|-------------------|-------------------|
| <b>Triton X-100</b>   | No data available | No data available                                   | No data available | No data available | No data available |
| <b>Ethylene oxide</b> | No data available | Daphnia magna<br>LC50137 - 300 mg/L<br>(48 h)       | No data available | No data available | logPow-0.3        |
| <b>Glycerol</b>       | No data available | No data available                                   | No data available | No data available | logPow-1.76       |

**Mobility in soil** No information available.

**Persistence and degradability** No information available.

**Bioaccumulative potential** No information available.

### Results of PBT and vPvB assessment

No information available.

**Other adverse effects** Contains a known or suspected endocrine disruptor.

## SECTION 13: Disposal considerations

### Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations. Do not empty into drains. Do not dispose of waste into sewer.

## SECTION 14: Transport information

### IATA / ADR / DOT-US / IMDG

Not regulated in the meaning of transport regulations

|                                   |                |
|-----------------------------------|----------------|
| <b>UN number or ID number</b>     | Not Applicable |
| <b>UN proper shipping name</b>    | Not Applicable |
| <b>Transport hazard class(es)</b> | Not Applicable |
| <b>Packing group</b>              | Not Applicable |

### Environmental hazards

Not Applicable

### Special precautions for user

Not Applicable

### Maritime transport in bulk according to IMO instruments

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Product code 100042789

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Product name HIV Sequencing Mix R1

Not Applicable.

#### SECTION 15: Regulatory information

| Component                            | US TSCA |
|--------------------------------------|---------|
| Triton X-100<br>9002-93-1 ( <0.1 )   | Listed  |
| Ethylene oxide<br>75-21-8 ( <0.001 ) | Listed  |
| Glycerol<br>56-81-5 ( 3-7 )          | Listed  |

#### US Federal Regulations

##### **SARA 313**

This product contains the following toxic chemical(s) subject to the notification requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. This law requires certain manufacturers to report on annual emissions of specified chemicals and chemical categories. Please note that if you repackage, or otherwise redistribute, this product to industrial customers, a notice similar to this one should be sent to those customers.

| <u>Chemical Name</u> | <u>CAS No.</u> | <u>Weight-%</u> | <u>SARA 313 - Threshold Values</u> |
|----------------------|----------------|-----------------|------------------------------------|
| Ethylene oxide       | 75-21-8        | <0.001          | 0.1                                |

##### **Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product contains the following HAPs

| <u>Component</u>                     | <u>CAS No.</u> | <u>Weight-%</u> | <u>HAPS data</u> |
|--------------------------------------|----------------|-----------------|------------------|
| Ethylene oxide<br>75-21-8 ( <0.001 ) | 75-21-8        | <0.001          | Present          |

#### US State Regulations

| <u>Chemical Name</u> | <u>Massachusetts - RTK (Right-to-Know)</u> | <u>New Jersey - RTK (Right-to-Know)</u> | <u>Pennsylvania - RTK (Right-to-Know)</u> |
|----------------------|--|---|---|
| Ethylene oxide       | Listed                                     | Listed                                  | Listed                                    |
| Glycerol             | Listed                                     | Listed                                  | Listed                                    |

##### **California Proposition 65**

This product contains the following Proposition 65 chemicals:

| <u>Chemical Name</u> | <u>CAS No.</u> | <u>Weight-%</u> | <u>Category</u>   |
|----------------------|----------------|-----------------|---|
| Ethylene oxide       | 75-21-8        | <0.001          | Carcinogen<br>Developmental<br>Female Reproductive<br>Male Reproductive |

##### **WHMIS Hazard Class**

Non-controlled

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

## National Regulations - Brazil

| <u>Chemical Name</u> | <u>CAS No.</u> | <u>Brazil - National Agency for Sanitary Surveillance (ANVISA)</u> | <u>Brazil - National List of Carcinogen Agents to Humans (LINACH)</u> |
|----------------------|----------------|--|---|
| Triton X-100         | 9002-93-1      | Not Listed   | Not Listed  |
| Ethylene oxide       | 75-21-8        | Not Listed   | Group 1<br>Group 2A   |
| Glycerol             | 56-81-5        | Not Listed   | Not Listed  |

### SECTION 16: Other information

**Reason for revision** SDS sections updated.  
**Revision number** 5  
**Revision date** 22-Mar-2021

Research Use Only. Not for use in diagnostic procedures.

#### References

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database: <https://www.chemadvisor.com/loli-database>

#### Abbreviations and acronyms

**TWA** - Time-Weighted Average  
**OELs** - Occupational Exposure Limits  
**STEL** - Short Term Exposure Limit  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**CEPA** - Canadian Environmental Protection Act  
**EPA** - Environmental Protection Agency  
**OSHA** - Occupational Safety and Health Administration of the US Department of Labor  
**IATA** - International Air Transport Association  
**DOT** - Department of Transportation  
**IMDG** - International Maritime Dangerous Goods  
**ACGIH** - American Conference of Governmental Industrial Hygienists  
**NIOSH** - National Institute for Occupational Safety and Health  
**AIHA** - American Industrial Hygiene Association  
**HMIS** - Department of Defense Hazardous Materials Information System  
**NTP** - National Toxicology Program  
**IARC** - International Agency for Research on Cancer

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR

**Revision date** 22-Mar-2021  
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**Product name** HIV Sequencing Mix R1

IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

**End of Safety Data Sheet**



## Safety Data Sheet

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### Identification of the substance or mixture

**Product code** 100042790  
**Product name** HIV Sequencing Mix R2

#### Company/undertaking identification

Life Technologies Corporation  
5781 Van Allen Way  
PO Box 6482  
Carlsbad, CA 92008  
+1 760 603 7200

Life Technologies  
5250 Mainway Drive  
Burlington, ONT  
CANADA L7L 6A4  
800/263-6236

**24 hour Emergency Response for Hazardous Materials [or Dangerous Goods] Incident. Spill, Leak, Fire, Exposure, or Accident. Call CHEMTREC** Within the USA + Canada: 1-800-424-9300 and 1-703-527-3887  
Outside the USA + Canada: 1-703-741-5970

**Country Specific Emergency Number (if available):**

**Research Use Only. Not for use in diagnostic procedures.**

### SECTION 2: Hazards identification

#### GHS Classification

**Signal Word**  
None

**Hazard pictograms**  
None

**Health hazards**  
Not Hazardous

**Physical hazards**  
Not Hazardous

**Environmental hazards**

Not Hazardous

**Hazard Statements**

Not Applicable

**Precautionary Statements****Prevention**

Not Applicable

**Response**

Not Applicable

**Storage**

Not Applicable

**Disposal**

Not Applicable

**Other hazards**

Contains a known or suspected endocrine disruptor

**HMIS**

|              |   |
|--------------|---|
| Health       | 0 |
| Flammability | 0 |
| Reactivity   | 0 |

**SECTION 3: Composition/information on ingredients**

| Chemical Name  | CAS No.   | Common name    | EINECS-No | Weight-% |
|----------------|-----------|----------------|-----------|----------|
| Triton X-100   | 9002-93-1 | Not applicable | 618-344-0 | <0.1     |
| Ethylene oxide | 75-21-8   | Not applicable | -         | <0.001   |
| Glycerol       | 56-81-5   | Not applicable | 200-289-5 | 3-7      |

We recommend handling all chemicals with caution.

## SECTION 4: First aid measures

### Description of first aid measures

|                           |   |
|---------------------------|---|
| <b>Skin contact</b>       | Rinse skin with water. Immediate medical attention is not required.   |
| <b>Eye contact</b>        | Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.                        |
| <b>Ingestion</b>          | Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice. |
| <b>Inhalation</b>         | Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.      |
| <b>Notes to Physician</b> | Treat symptomatically.  |

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

Not Applicable

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

None.

## SECTION 5: Firefighting measures

### Extinguishing media

|                                       |   |
|---------------------------------------|---|
| <b>Suitable extinguishing media</b>   | Water spray. Carbon dioxide (CO <sub>2</sub> ). Foam. Dry chemical. |
| <b>Unsuitable extinguishing media</b> | No information available.   |

### Special hazards arising from the substance or mixture

Not known

### Advice for firefighters

Standard procedure for chemical fires.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation  
Always wear recommended Personal Protective Equipment  
Use personal protection equipment  
See section 8 for more information

### Environmental precautions

Prevent product from entering drains. Do not allow material to contaminate ground water system.

### Methods and material for containment and cleaning up

Soak up with inert absorbent material.

### Reference to other sections

See section 8 for more information.

## SECTION 7: Handling and storage

### Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

### Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

### Specific end use(s)

For research use only.

## SECTION 8: Exposure controls/personal protection

### Control parameters

| Chemical Name  | OSHA PEL                                    | OSHA PEL (Ceiling) | ACGIH OEL (TWA) | ACGIH OEL (STEL) |
|----------------|---|--------------------|-----------------|------------------|
| Triton X-100   | None  | None               | None            | None             |
| Ethylene oxide | 1 ppm                                       | None               | 1 ppm           | None             |
| Glycerol       | 15 mg/m <sup>3</sup><br>5 mg/m <sup>3</sup> | None               | None            | None             |

| Chemical Name  | Brazil - OEL - TWAs (LTs)      | Brazil - OEL - Ceilings | Brazil - OEL - Skin Designations |
|----------------|--------------------------------|-------------------------|----------------------------------|
| Triton X-100   | None                           | None                    | None                             |
| Ethylene oxide | 39 ppm<br>70 mg/m <sup>3</sup> | None                    | None                             |
| Glycerol       | None                           | None                    | None                             |

### Engineering Measures

Ensure adequate ventilation, especially in confined areas.

### Exposure controls

#### Personal Protective Equipment

#### Respiratory protection

In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.

#### Hand protection

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

#### Eye protection

Tight sealing safety goggles.

#### Skin and Body Protection

Wear suitable protective clothing.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

#### Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water system.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

|   |            |            |
|---|------------|------------|
| Physical state                            | liquid     |            |
| Color                                     | No data    |            |
| Odor                                      | No data    |            |
| Molecular Weight                          | No data    |            |
| Melting point / melting range             | °C No data | °F No data |
| Boiling point / boiling range             | °C No data | °F No data |
| Flammability (solid, gas)                 | No data    |            |
| Lower explosion limit                     | No data    |            |
| Upper explosion limit                     | No data    |            |
| Flash point                               | °C No data | °F No data |
| Autoignition Temperature                  | °C No data | °F No data |
| Decomposition temperature                 | °C No data | °F No data |
| pH  | 8.7        |            |
| Evaporation rate                          | No data    |            |
| Viscosity                                 | No data    |            |
| Solubility                                | No data    |            |
| Partition coefficient:<br>n-octanol/water | No data    |            |
| Vapor Pressure                            | No data    |            |
| Specific gravity                          | No data    |            |
| Relative density                          | No data    |            |
| Vapor density                             | No data    |            |
| Explosive properties                      | No data    |            |
| Oxidizing properties                      | No data    |            |
| Particle characteristics                  | No data    |            |

### Other information

#### Information with regard to physical hazard classes

No information available

#### Other safety characteristics

No information available

## SECTION 10: Stability and reactivity

|                                    |   |
|------------------------------------|---|
| Reactivity                         | None known.   |
| Chemical stability                 | Stable under normal conditions.                             |
| Possibility of hazardous reactions | Hazardous reaction has not been reported.                   |
| Conditions to avoid                | No information available.                                   |
| Incompatible materials             | No dangerous reaction known under conditions of normal use. |
| Hazardous decomposition products   | No data available.  |

## SECTION 11: Toxicological information

### Information on toxicological effects

| Chemical Name  | Oral LD50          | Dermal LD50       | Inhalation LC50   |
|----------------|--------------------|-------------------|-------------------|
| Triton X-100   | = 1800 mg/kg (Rat) | No data available | No data available |
| Ethylene oxide | = 72 mg/kg (Rat)   | No data available | =800ppm(Rat)      |
| Glycerol       | = 12600 mg/kg Oral | > 10 g/kg(Rabbit) | >2.75mg/L(Rat)    |

### Principal Routes of Exposure

**Acute toxicity** Data are conclusive but insufficient for classification.

**Skin corrosion/irritation** Data are conclusive but insufficient for classification

**Serious eye damage/irritation** Data are conclusive but insufficient for classification

**Respiratory or skin sensitization** Data are conclusive but insufficient for classification

**Specific target organ toxicity (STOT) – single exposure** Data are conclusive but insufficient for classification

**Specific target organ toxicity (STOT) – repeated exposure** Data are conclusive but insufficient for classification

**Carcinogenicity** Data are conclusive but insufficient for classification

**Germ cell mutagenicity** Data are conclusive but insufficient for classification

**Reproductive toxicity** Data are conclusive but insufficient for classification

**Aspiration hazard** Data are conclusive but insufficient for classification

## SECTION 12: Ecological information

### Toxicity

The environmental impact of this product has not been fully investigated.

| Chemical Name         | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates | Toxicity to fish  | Microtox Data     | log Pow           |
|-----------------------|-------------------|---|-------------------|-------------------|-------------------|
| <b>Triton X-100</b>   | No data available | No data available                                   | No data available | No data available | No data available |
| <b>Ethylene oxide</b> | No data available | Daphnia magna<br>LC50137 - 300 mg/L<br>(48 h)       | No data available | No data available | logPow-0.3        |
| <b>Glycerol</b>       | No data available | No data available                                   | No data available | No data available | logPow-1.76       |

**Mobility in soil** No information available.

**Persistence and degradability** No information available.

**Bioaccumulative potential** No information available.

### Results of PBT and vPvB assessment

No information available.

**Other adverse effects** Contains a known or suspected endocrine disruptor.

## SECTION 13: Disposal considerations

### Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations. Do not empty into drains. Do not dispose of waste into sewer.

## SECTION 14: Transport information

### IATA / ADR / DOT-US / IMDG

Not regulated in the meaning of transport regulations

|                                   |                |
|-----------------------------------|----------------|
| <b>UN number or ID number</b>     | Not Applicable |
| <b>UN proper shipping name</b>    | Not Applicable |
| <b>Transport hazard class(es)</b> | Not Applicable |
| <b>Packing group</b>              | Not Applicable |

### Environmental hazards

Not Applicable

### Special precautions for user

Not Applicable

### Maritime transport in bulk according to IMO instruments

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Product code 100042790

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Product name HIV Sequencing Mix R2

Not Applicable.

#### SECTION 15: Regulatory information

| Component                            | US TSCA |
|--------------------------------------|---------|
| Triton X-100<br>9002-93-1 ( <0.1 )   | Listed  |
| Ethylene oxide<br>75-21-8 ( <0.001 ) | Listed  |
| Glycerol<br>56-81-5 ( 3-7 )          | Listed  |

#### US Federal Regulations

##### **SARA 313**

This product contains the following toxic chemical(s) subject to the notification requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. This law requires certain manufacturers to report on annual emissions of specified chemicals and chemical categories. Please note that if you repackage, or otherwise redistribute, this product to industrial customers, a notice similar to this one should be sent to those customers.

| <u>Chemical Name</u> | <u>CAS No.</u> | <u>Weight-%</u> | <u>SARA 313 - Threshold Values</u> |
|----------------------|----------------|-----------------|------------------------------------|
| Ethylene oxide       | 75-21-8        | <0.001          | 0.1                                |

##### **Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product contains the following HAPs

| <u>Component</u>                     | <u>CAS No.</u> | <u>Weight-%</u> | <u>HAPS data</u> |
|--------------------------------------|----------------|-----------------|------------------|
| Ethylene oxide<br>75-21-8 ( <0.001 ) | 75-21-8        | <0.001          | Present          |

#### US State Regulations

| Chemical Name  | Massachusetts - RTK<br>(Right-to-Know) | New Jersey - RTK<br>(Right-to-Know) | Pennsylvania - RTK<br>(Right-to-Know) |
|----------------|--|-------------------------------------|---------------------------------------|
| Ethylene oxide | Listed                                 | Listed                              | Listed                                |
| Glycerol       | Listed                                 | Listed                              | Listed                                |

##### **California Proposition 65**

This product contains the following Proposition 65 chemicals:

| <u>Chemical Name</u> | <u>CAS No.</u> | <u>Weight-%</u> | <u>Category</u>   |
|----------------------|----------------|-----------------|---|
| Ethylene oxide       | 75-21-8        | <0.001          | Carcinogen<br>Developmental<br>Female Reproductive<br>Male Reproductive |

##### **WHMIS Hazard Class**

Non-controlled

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.



## National Regulations - Brazil

| Chemical Name  | CAS No.   | Brazil - National Agency for Sanitary Surveillance (ANVISA) | Brazil - National List of Carcinogen Agents to Humans (LINACH) |
|----------------|-----------|---|--|
| Triton X-100   | 9002-93-1 | Not Listed  | Not Listed   |
| Ethylene oxide | 75-21-8   | Not Listed  | Group 1<br>Group 2A  |
| Glycerol       | 56-81-5   | Not Listed  | Not Listed   |

### SECTION 16: Other information

**Reason for revision** SDS sections updated.  
**Revision number** 5  
**Revision date** 22-Mar-2021

Research Use Only. Not for use in diagnostic procedures.

#### References

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database: <https://www.chemadvisor.com/loli-database>

#### Abbreviations and acronyms

**TWA** - Time-Weighted Average  
**OELs** - Occupational Exposure Limits  
**STEL** - Short Term Exposure Limit  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**CEPA** - Canadian Environmental Protection Act  
**EPA** - Environmental Protection Agency  
**OSHA** - Occupational Safety and Health Administration of the US Department of Labor  
**IATA** - International Air Transport Association  
**DOT** - Department of Transportation  
**IMDG** - International Maritime Dangerous Goods  
**ACGIH** - American Conference of Governmental Industrial Hygienists  
**NIOSH** - National Institute for Occupational Safety and Health  
**AIHA** - American Industrial Hygiene Association  
**HMIS** - Department of Defense Hazardous Materials Information System  
**NTP** - National Toxicology Program  
**IARC** - International Agency for Research on Cancer

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IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

**End of Safety Data Sheet**

## Safety Data Sheet

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### Identification of the substance or mixture

**Product code** 100042791  
**Product name** HIV Sequencing Mix R3

#### Company/undertaking identification

Life Technologies Corporation  
5781 Van Allen Way  
PO Box 6482  
Carlsbad, CA 92008  
+1 760 603 7200

Life Technologies  
5250 Mainway Drive  
Burlington, ONT  
CANADA L7L 6A4  
800/263-6236

**24 hour Emergency Response for Hazardous Materials [or Dangerous Goods] Incident. Spill, Leak, Fire, Exposure, or Accident. Call CHEMTREC** Within the USA + Canada: 1-800-424-9300 and 1-703-527-3887  
Outside the USA + Canada: 1-703-741-5970

**Country Specific Emergency Number (if available):**

**Research Use Only. Not for use in diagnostic procedures.**

### SECTION 2: Hazards identification

#### GHS Classification

**Signal Word**  
None

**Hazard pictograms**  
None

**Health hazards**  
Not Hazardous

**Physical hazards**  
Not Hazardous

**Environmental hazards**

Not Hazardous

**Hazard Statements**

Not Applicable

**Precautionary Statements****Prevention**

Not Applicable

**Response**

Not Applicable

**Storage**

Not Applicable

**Disposal**

Not Applicable

**Other hazards**

Contains a known or suspected endocrine disruptor

**HMIS**

|              |   |
|--------------|---|
| Health       | 0 |
| Flammability | 0 |
| Reactivity   | 0 |

**SECTION 3: Composition/information on ingredients**

| Chemical Name  | CAS No.   | Common name    | EINECS-No | Weight-% |
|----------------|-----------|----------------|-----------|----------|
| Triton X-100   | 9002-93-1 | Not applicable | 618-344-0 | <0.1     |
| Ethylene oxide | 75-21-8   | Not applicable | -         | <0.001   |
| Glycerol       | 56-81-5   | Not applicable | 200-289-5 | 3-7      |

We recommend handling all chemicals with caution.

## SECTION 4: First aid measures

### Description of first aid measures

|                           |   |
|---------------------------|---|
| <b>Skin contact</b>       | Rinse skin with water. Immediate medical attention is not required.   |
| <b>Eye contact</b>        | Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.                        |
| <b>Ingestion</b>          | Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice. |
| <b>Inhalation</b>         | Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.      |
| <b>Notes to Physician</b> | Treat symptomatically.  |

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

Not Applicable

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

None.

## SECTION 5: Firefighting measures

### Extinguishing media

|                                       |   |
|---------------------------------------|---|
| <b>Suitable extinguishing media</b>   | Water spray. Carbon dioxide (CO <sub>2</sub> ). Foam. Dry chemical. |
| <b>Unsuitable extinguishing media</b> | No information available.   |

### Special hazards arising from the substance or mixture

Not known

### Advice for firefighters

Standard procedure for chemical fires.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation  
Always wear recommended Personal Protective Equipment  
Use personal protection equipment  
See section 8 for more information

### Environmental precautions

Prevent product from entering drains. Do not allow material to contaminate ground water system.

### Methods and material for containment and cleaning up

Soak up with inert absorbent material.

### Reference to other sections

See section 8 for more information.

## SECTION 7: Handling and storage

### Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

### Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

### Specific end use(s)

For research use only.

## SECTION 8: Exposure controls/personal protection

### Control parameters

| Chemical Name  | OSHA PEL                                    | OSHA PEL (Ceiling) | ACGIH OEL (TWA) | ACGIH OEL (STEL) |
|----------------|---|--------------------|-----------------|------------------|
| Triton X-100   | None  | None               | None            | None             |
| Ethylene oxide | 1 ppm                                       | None               | 1 ppm           | None             |
| Glycerol       | 15 mg/m <sup>3</sup><br>5 mg/m <sup>3</sup> | None               | None            | None             |

| Chemical Name  | Brazil - OEL - TWAs (LTs)      | Brazil - OEL - Ceilings | Brazil - OEL - Skin Designations |
|----------------|--------------------------------|-------------------------|----------------------------------|
| Triton X-100   | None                           | None                    | None                             |
| Ethylene oxide | 39 ppm<br>70 mg/m <sup>3</sup> | None                    | None                             |
| Glycerol       | None                           | None                    | None                             |

### Engineering Measures

Ensure adequate ventilation, especially in confined areas.

### Exposure controls

#### Personal Protective Equipment

##### Respiratory protection

In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.

##### Hand protection

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

##### Eye protection

Tight sealing safety goggles.

##### Skin and Body Protection

Wear suitable protective clothing.

##### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

##### Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water system.

## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

|   |            |            |
|---|------------|------------|
| Physical state                            | liquid     |            |
| Color                                     | No data    |            |
| Odor                                      | No data    |            |
| Molecular Weight                          | No data    |            |
| Melting point / melting range             | °C No data | °F No data |
| Boiling point / boiling range             | °C No data | °F No data |
| Flammability (solid, gas)                 | No data    |            |
| Lower explosion limit                     | No data    |            |
| Upper explosion limit                     | No data    |            |
| Flash point                               | °C No data | °F No data |
| Autoignition Temperature                  | °C No data | °F No data |
| Decomposition temperature                 | °C No data | °F No data |
| pH  | 8.7        |            |
| Evaporation rate                          | No data    |            |
| Viscosity                                 | No data    |            |
| Solubility                                | No data    |            |
| Partition coefficient:<br>n-octanol/water | No data    |            |
| Vapor Pressure                            | No data    |            |
| Specific gravity                          | No data    |            |
| Relative density                          | No data    |            |
| Vapor density                             | No data    |            |
| Explosive properties                      | No data    |            |
| Oxidizing properties                      | No data    |            |
| Particle characteristics                  | No data    |            |

### Other information

#### Information with regard to physical hazard classes

No information available

#### Other safety characteristics

No information available

## SECTION 10: Stability and reactivity

|                                    |   |
|------------------------------------|---|
| Reactivity                         | None known.   |
| Chemical stability                 | Stable under normal conditions.                             |
| Possibility of hazardous reactions | Hazardous reaction has not been reported.                   |
| Conditions to avoid                | No information available.                                   |
| Incompatible materials             | No dangerous reaction known under conditions of normal use. |
| Hazardous decomposition products   | No data available.  |

## SECTION 11: Toxicological information

### Information on toxicological effects

| Chemical Name  | Oral LD50          | Dermal LD50       | Inhalation LC50   |
|----------------|--------------------|-------------------|-------------------|
| Triton X-100   | = 1800 mg/kg (Rat) | No data available | No data available |
| Ethylene oxide | = 72 mg/kg (Rat)   | No data available | =800ppm(Rat)      |
| Glycerol       | = 12600 mg/kg Oral | > 10 g/kg(Rabbit) | >2.75mg/L(Rat)    |

### Principal Routes of Exposure

**Acute toxicity** Data are conclusive but insufficient for classification.

**Skin corrosion/irritation** Data are conclusive but insufficient for classification

**Serious eye damage/irritation** Data are conclusive but insufficient for classification

**Respiratory or skin sensitization** Data are conclusive but insufficient for classification

**Specific target organ toxicity (STOT) – single exposure** Data are conclusive but insufficient for classification

**Specific target organ toxicity (STOT) – repeated exposure** Data are conclusive but insufficient for classification

**Carcinogenicity** Data are conclusive but insufficient for classification

**Germ cell mutagenicity** Data are conclusive but insufficient for classification

**Reproductive toxicity** Data are conclusive but insufficient for classification

**Aspiration hazard** Data are conclusive but insufficient for classification



## SECTION 12: Ecological information

### Toxicity

The environmental impact of this product has not been fully investigated.

| Chemical Name         | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates | Toxicity to fish  | Microtox Data     | log Pow           |
|-----------------------|-------------------|---|-------------------|-------------------|-------------------|
| <b>Triton X-100</b>   | No data available | No data available                                   | No data available | No data available | No data available |
| <b>Ethylene oxide</b> | No data available | Daphnia magna<br>LC50137 - 300 mg/L<br>(48 h)       | No data available | No data available | logPow-0.3        |
| <b>Glycerol</b>       | No data available | No data available                                   | No data available | No data available | logPow-1.76       |

**Mobility in soil** No information available.

**Persistence and degradability** No information available.

**Bioaccumulative potential** No information available.

### Results of PBT and vPvB assessment

No information available.

**Other adverse effects** Contains a known or suspected endocrine disruptor.

## SECTION 13: Disposal considerations

### Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in according to approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations. Do not empty into drains. Do not dispose of waste into sewer.

## SECTION 14: Transport information

### IATA / ADR / DOT-US / IMDG

Not regulated in the meaning of transport regulations

|                                   |                |
|-----------------------------------|----------------|
| <b>UN number or ID number</b>     | Not Applicable |
| <b>UN proper shipping name</b>    | Not Applicable |
| <b>Transport hazard class(es)</b> | Not Applicable |
| <b>Packing group</b>              | Not Applicable |

### Environmental hazards

Not Applicable

### Special precautions for user

Not Applicable

### Maritime transport in bulk according to IMO instruments

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Not Applicable.

#### SECTION 15: Regulatory information

| Component                            | US TSCA |
|--------------------------------------|---------|
| Triton X-100<br>9002-93-1 ( <0.1 )   | Listed  |
| Ethylene oxide<br>75-21-8 ( <0.001 ) | Listed  |
| Glycerol<br>56-81-5 ( 3-7 )          | Listed  |

#### US Federal Regulations

##### **SARA 313**

This product contains the following toxic chemical(s) subject to the notification requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. This law requires certain manufacturers to report on annual emissions of specified chemicals and chemical categories. Please note that if you repackage, or otherwise redistribute, this product to industrial customers, a notice similar to this one should be sent to those customers.

| <u>Chemical Name</u> | <u>CAS No.</u> | <u>Weight-%</u> | <u>SARA 313 - Threshold Values</u> |
|----------------------|----------------|-----------------|------------------------------------|
| Ethylene oxide       | 75-21-8        | <0.001          | 0.1                                |

##### **Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product contains the following HAPs

| <u>Component</u>                     | <u>CAS No.</u> | <u>Weight-%</u> | <u>HAPS data</u> |
|--------------------------------------|----------------|-----------------|------------------|
| Ethylene oxide<br>75-21-8 ( <0.001 ) | 75-21-8        | <0.001          | Present          |

#### US State Regulations

| <u>Chemical Name</u> | <u>Massachusetts - RTK (Right-to-Know)</u> | <u>New Jersey - RTK (Right-to-Know)</u> | <u>Pennsylvania - RTK (Right-to-Know)</u> |
|----------------------|--|---|---|
| Ethylene oxide       | Listed                                     | Listed                                  | Listed                                    |
| Glycerol             | Listed                                     | Listed                                  | Listed                                    |

##### **California Proposition 65**

This product contains the following Proposition 65 chemicals:

| <u>Chemical Name</u> | <u>CAS No.</u> | <u>Weight-%</u> | <u>Category</u>   |
|----------------------|----------------|-----------------|---|
| Ethylene oxide       | 75-21-8        | <0.001          | Carcinogen<br>Developmental<br>Female Reproductive<br>Male Reproductive |

##### **WHMIS Hazard Class**

Non-controlled

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

## National Regulations - Brazil

| <u>Chemical Name</u> | <u>CAS No.</u> | <u>Brazil - National Agency for Sanitary Surveillance (ANVISA)</u> | <u>Brazil - National List of Carcinogen Agents to Humans (LINACH)</u> |
|----------------------|----------------|--|---|
| Triton X-100         | 9002-93-1      | Not Listed   | Not Listed  |
| Ethylene oxide       | 75-21-8        | Not Listed   | Group 1<br>Group 2A   |
| Glycerol             | 56-81-5        | Not Listed   | Not Listed  |

### SECTION 16: Other information

**Reason for revision** SDS sections updated.  
**Revision number** 4  
**Revision date** 22-Mar-2021

Research Use Only. Not for use in diagnostic procedures.

#### References

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database: <https://www.chemadvisor.com/loli-database>

#### Abbreviations and acronyms

**TWA** - Time-Weighted Average  
**OELs** - Occupational Exposure Limits  
**STEL** - Short Term Exposure Limit  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**CEPA** - Canadian Environmental Protection Act  
**EPA** - Environmental Protection Agency  
**OSHA** - Occupational Safety and Health Administration of the US Department of Labor  
**IATA** - International Air Transport Association  
**DOT** - Department of Transportation  
**IMDG** - International Maritime Dangerous Goods  
**ACGIH** - American Conference of Governmental Industrial Hygienists  
**NIOSH** - National Institute for Occupational Safety and Health  
**AIHA** - American Industrial Hygiene Association  
**HMIS** - Department of Defense Hazardous Materials Information System  
**NTP** - National Toxicology Program  
**IARC** - International Agency for Research on Cancer

"The above information was acquired by diligent search and/or investigation and the recommendations are based on prudent application of professional judgment. The information shall not be taken as being all inclusive and is to be used only as a guide. All materials and mixtures may present unknown hazards and should be used with caution. Since the Company cannot control the actual methods, volumes, or conditions of use, the Company shall not be held liable for any damages or losses resulting from the handling or from contact with the product as described herein. THE INFORMATION IN THIS SDS DOES NOT CONSTITUTE A WARRANTY, EXPRESSED OR

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IMPLIED, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE"

**End of Safety Data Sheet**

## Safety Data Sheet

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### Identification of the substance or mixture

**Product code** 100042792  
**Product name** pGEM Sequencing Control

#### Company/undertaking identification

Life Technologies Corporation  
5781 Van Allen Way  
PO Box 6482  
Carlsbad, CA 92008  
+1 760 603 7200

Life Technologies  
5250 Mainway Drive  
Burlington, ONT  
CANADA L7L 6A4  
800/263-6236

**24 hour Emergency Response for Hazardous Materials [or Dangerous Goods] Incident. Spill, Leak, Fire, Exposure, or Accident. Call CHEMTREC** Within the USA + Canada: 1-800-424-9300 and 1-703-527-3887  
Outside the USA + Canada: 1-703-741-5970

**Country Specific Emergency Number (if available):**

**Research Use Only. Not for use in diagnostic procedures.**

### SECTION 2: Hazards identification

#### GHS Classification

**Signal Word**  
None

**Hazard pictograms**  
None

**Health hazards**  
Not Hazardous

**Physical hazards**  
Not Hazardous

**Environmental hazards**

Not Hazardous

**Hazard Statements**

Not Applicable

**Precautionary Statements****Prevention**

Not Applicable

**Response**

Not Applicable

**Storage**

Not Applicable

**Disposal**

Not Applicable

**Other hazards**

Contains a known or suspected endocrine disruptor

**HMIS**

|              |   |
|--------------|---|
| Health       | 0 |
| Flammability | 0 |
| Reactivity   | 0 |

**SECTION 3: Composition/information on ingredients**

| Chemical Name  | CAS No.   | Common name    | EINECS-No | Weight-% |
|----------------|-----------|----------------|-----------|----------|
| Triton X-100   | 9002-93-1 | Not applicable | 618-344-0 | <0.1     |
| Ethylene oxide | 75-21-8   | Not applicable | -         | <0.001   |
| Glycerol       | 56-81-5   | Not applicable | 200-289-5 | 3-7      |

We recommend handling all chemicals with caution.

## SECTION 4: First aid measures

### Description of first aid measures

|                           |   |
|---------------------------|---|
| <b>Skin contact</b>       | Rinse skin with water. Immediate medical attention is not required.   |
| <b>Eye contact</b>        | Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.                        |
| <b>Ingestion</b>          | Not expected to present a significant ingestion hazard under anticipated conditions of normal use. If you feel unwell, seek medical advice. |
| <b>Inhalation</b>         | Not expected to be an inhalation hazard under anticipated conditions of normal use of this material. Consult a physician if necessary.      |
| <b>Notes to Physician</b> | Treat symptomatically.  |

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

Not Applicable

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

None.

## SECTION 5: Firefighting measures

### Extinguishing media

|                                       |   |
|---------------------------------------|---|
| <b>Suitable extinguishing media</b>   | Water spray. Carbon dioxide (CO <sub>2</sub> ). Foam. Dry chemical. |
| <b>Unsuitable extinguishing media</b> | No information available.   |

### Special hazards arising from the substance or mixture

Not known

### Advice for firefighters

Standard procedure for chemical fires.

## SECTION 6: Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation  
Always wear recommended Personal Protective Equipment  
Use personal protection equipment  
See section 8 for more information

### Environmental precautions

Prevent product from entering drains. Do not allow material to contaminate ground water system.

### Methods and material for containment and cleaning up

Soak up with inert absorbent material.

### Reference to other sections

See section 8 for more information.

## SECTION 7: Handling and storage

### Precautions for safe handling

Use personal protective equipment as required. No special handling advices are necessary.

### Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep in properly labeled containers.

### Specific end use(s)

For research use only.

## SECTION 8: Exposure controls/personal protection

### Control parameters

| Chemical Name  | OSHA PEL                                    | OSHA PEL (Ceiling) | ACGIH OEL (TWA) | ACGIH OEL (STEL) |
|----------------|---|--------------------|-----------------|------------------|
| Triton X-100   | None  | None               | None            | None             |
| Ethylene oxide | 1 ppm                                       | None               | 1 ppm           | None             |
| Glycerol       | 15 mg/m <sup>3</sup><br>5 mg/m <sup>3</sup> | None               | None            | None             |

| Chemical Name  | Brazil - OEL - TWAs (LTs)      | Brazil - OEL - Ceilings | Brazil - OEL - Skin Designations |
|----------------|--------------------------------|-------------------------|----------------------------------|
| Triton X-100   | None                           | None                    | None                             |
| Ethylene oxide | 39 ppm<br>70 mg/m <sup>3</sup> | None                    | None                             |
| Glycerol       | None                           | None                    | None                             |

### Engineering Measures

Ensure adequate ventilation, especially in confined areas.

### Exposure controls

#### Personal Protective Equipment

#### Respiratory protection

In case of insufficient ventilation wear respirators and components tested and approved under appropriate government standards.

#### Hand protection

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

#### Eye protection

Tight sealing safety goggles.

#### Skin and Body Protection

Wear suitable protective clothing.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

#### Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water system.



## SECTION 9: Physical and chemical properties

### Information on basic physical and chemical properties

|   |            |            |
|---|------------|------------|
| Physical state                            | liquid     |            |
| Color                                     | No data    |            |
| Odor                                      | No data    |            |
| Molecular Weight                          | No data    |            |
| Melting point / melting range             | °C No data | °F No data |
| Boiling point / boiling range             | °C No data | °F No data |
| Flammability (solid, gas)                 | No data    |            |
| Lower explosion limit                     | No data    |            |
| Upper explosion limit                     | No data    |            |
| Flash point                               | °C No data | °F No data |
| Autoignition Temperature                  | °C No data | °F No data |
| Decomposition temperature                 | °C No data | °F No data |
| pH  | 8.7        |            |
| Evaporation rate                          | No data    |            |
| Viscosity                                 | No data    |            |
| Solubility                                | No data    |            |
| Partition coefficient:<br>n-octanol/water | No data    |            |
| Vapor Pressure                            | No data    |            |
| Specific gravity                          | No data    |            |
| Relative density                          | No data    |            |
| Vapor density                             | No data    |            |
| Explosive properties                      | No data    |            |
| Oxidizing properties                      | No data    |            |
| Particle characteristics                  | No data    |            |

### Other information

#### Information with regard to physical hazard classes

No information available

#### Other safety characteristics

No information available

## SECTION 10: Stability and reactivity

|                                    |   |
|------------------------------------|---|
| Reactivity                         | None known.   |
| Chemical stability                 | Stable under normal conditions.                             |
| Possibility of hazardous reactions | Hazardous reaction has not been reported.                   |
| Conditions to avoid                | No information available.                                   |
| Incompatible materials             | No dangerous reaction known under conditions of normal use. |
| Hazardous decomposition products   | No data available.  |

## SECTION 11: Toxicological information

### Information on toxicological effects

| Chemical Name  | Oral LD50          | Dermal LD50       | Inhalation LC50   |
|----------------|--------------------|-------------------|-------------------|
| Triton X-100   | = 1800 mg/kg (Rat) | No data available | No data available |
| Ethylene oxide | = 72 mg/kg (Rat)   | No data available | =800ppm(Rat)      |
| Glycerol       | = 12600 mg/kg Oral | > 10 g/kg(Rabbit) | >2.75mg/L(Rat)    |

### Principal Routes of Exposure

**Acute toxicity** Data are conclusive but insufficient for classification.

**Skin corrosion/irritation** Data are conclusive but insufficient for classification

**Serious eye damage/irritation** Data are conclusive but insufficient for classification

**Respiratory or skin sensitization** Data are conclusive but insufficient for classification

**Specific target organ toxicity (STOT) – single exposure** Data are conclusive but insufficient for classification

**Specific target organ toxicity (STOT) – repeated exposure** Data are conclusive but insufficient for classification

**Carcinogenicity** Data are conclusive but insufficient for classification

**Germ cell mutagenicity** Data are conclusive but insufficient for classification

**Reproductive toxicity** Data are conclusive but insufficient for classification

**Aspiration hazard** Data are conclusive but insufficient for classification

## SECTION 12: Ecological information

### Toxicity

The environmental impact of this product has not been fully investigated.

| Chemical Name         | Toxicity to algae | Toxicity to daphnia and other aquatic invertebrates | Toxicity to fish  | Microtox Data     | log Pow           |
|-----------------------|-------------------|---|-------------------|-------------------|-------------------|
| <b>Triton X-100</b>   | No data available | No data available                                   | No data available | No data available | No data available |
| <b>Ethylene oxide</b> | No data available | Daphnia magna<br>LC50137 - 300 mg/L<br>(48 h)       | No data available | No data available | logPow-0.3        |
| <b>Glycerol</b>       | No data available | No data available                                   | No data available | No data available | logPow-1.76       |

**Mobility in soil** No information available.

**Persistence and degradability** No information available.

**Bioaccumulative potential** No information available.

### Results of PBT and vPvB assessment

No information available.

**Other adverse effects** Contains a known or suspected endocrine disruptor.

## SECTION 13: Disposal considerations

### Waste treatment methods

The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in accordance with approved disposal technique. Disposal of this product, its solutions or of any by-products, shall comply with the requirements of all applicable local, regional or national/federal regulations. Do not empty into drains. Do not dispose of waste into sewer.

## SECTION 14: Transport information

### IATA / ADR / DOT-US / IMDG

Not regulated in the meaning of transport regulations

|                                   |                |
|-----------------------------------|----------------|
| <b>UN number or ID number</b>     | Not Applicable |
| <b>UN proper shipping name</b>    | Not Applicable |
| <b>Transport hazard class(es)</b> | Not Applicable |
| <b>Packing group</b>              | Not Applicable |

### Environmental hazards

Not Applicable

### Special precautions for user

Not Applicable

### Maritime transport in bulk according to IMO instruments

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Product code 100042792

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Not Applicable.

#### SECTION 15: Regulatory information

| Component                            | US TSCA |
|--------------------------------------|---------|
| Triton X-100<br>9002-93-1 ( <0.1 )   | Listed  |
| Ethylene oxide<br>75-21-8 ( <0.001 ) | Listed  |
| Glycerol<br>56-81-5 ( 3-7 )          | Listed  |

#### US Federal Regulations

##### **SARA 313**

This product contains the following toxic chemical(s) subject to the notification requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986. This law requires certain manufacturers to report on annual emissions of specified chemicals and chemical categories. Please note that if you repackage, or otherwise redistribute, this product to industrial customers, a notice similar to this one should be sent to those customers.

| <u>Chemical Name</u> | <u>CAS No.</u> | <u>Weight-%</u> | <u>SARA 313 - Threshold Values</u> |
|----------------------|----------------|-----------------|------------------------------------|
| Ethylene oxide       | 75-21-8        | <0.001          | 0.1                                |

##### **Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)**

This product contains the following HAPs

| <u>Component</u>                     | <u>CAS No.</u> | <u>Weight-%</u> | <u>HAPS data</u> |
|--------------------------------------|----------------|-----------------|------------------|
| Ethylene oxide<br>75-21-8 ( <0.001 ) | 75-21-8        | <0.001          | Present          |

#### US State Regulations

| <u>Chemical Name</u> | <u>Massachusetts - RTK (Right-to-Know)</u> | <u>New Jersey - RTK (Right-to-Know)</u> | <u>Pennsylvania - RTK (Right-to-Know)</u> |
|----------------------|--|---|---|
| Ethylene oxide       | Listed                                     | Listed                                  | Listed                                    |
| Glycerol             | Listed                                     | Listed                                  | Listed                                    |

##### **California Proposition 65**

This product contains the following Proposition 65 chemicals:

| <u>Chemical Name</u> | <u>CAS No.</u> | <u>Weight-%</u> | <u>Category</u>   |
|----------------------|----------------|-----------------|---|
| Ethylene oxide       | 75-21-8        | <0.001          | Carcinogen<br>Developmental<br>Female Reproductive<br>Male Reproductive |

##### **WHMIS Hazard Class**

Non-controlled

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the SDS contains all the information required by the CPR.

## National Regulations - Brazil

| <u>Chemical Name</u> | <u>CAS No.</u> | <u>Brazil - National Agency for Sanitary Surveillance (ANVISA)</u> | <u>Brazil - National List of Carcinogen Agents to Humans (LINACH)</u> |
|----------------------|----------------|--|---|
| Triton X-100         | 9002-93-1      | Not Listed   | Not Listed  |
| Ethylene oxide       | 75-21-8        | Not Listed   | Group 1<br>Group 2A   |
| Glycerol             | 56-81-5        | Not Listed   | Not Listed  |

### SECTION 16: Other information

**Reason for revision** SDS sections updated.  
**Revision number** 4  
**Revision date** 22-Mar-2021

Research Use Only. Not for use in diagnostic procedures.

#### References

- ECHA: <http://echa.europa.eu/>
- TOXNET: <http://toxnet.nlm.nih.gov/>
- eChemPortal: <http://www.echemportal.org/>
- LOLI database: <https://www.chemadvisor.com/loli-database>

#### Abbreviations and acronyms

**TWA** - Time-Weighted Average  
**OELs** - Occupational Exposure Limits  
**STEL** - Short Term Exposure Limit  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**CEPA** - Canadian Environmental Protection Act  
**EPA** - Environmental Protection Agency  
**OSHA** - Occupational Safety and Health Administration of the US Department of Labor  
**IATA** - International Air Transport Association  
**DOT** - Department of Transportation  
**IMDG** - International Maritime Dangerous Goods  
**ACGIH** - American Conference of Governmental Industrial Hygienists  
**NIOSH** - National Institute for Occupational Safety and Health  
**AIHA** - American Industrial Hygiene Association  
**HMIS** - Department of Defense Hazardous Materials Information System  
**NTP** - National Toxicology Program  
**IARC** - International Agency for Research on Cancer

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**End of Safety Data Sheet**