

Ligase

Safety Data Sheet

According to 29CFR 1910.1200 OSHA Hazard Communication Standard
Issue date: 11/20/2024 Revision date: 11/20/2024

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Trade name : Ligase
Product code : 190913

1.2. Recommended use and restrictions on use

Recommended use : DNA Library, Scientific research and development
Restrictions on use : Use only as directed.

1.3. Supplier

Covaris, LLC.
14 Gill St., Unit H
Woburn, MA 01801
USA
T +1 (781) 932-3959

1.4. Emergency telephone number

Emergency number : Chemtrec (800) 424-9300

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS US labeling

No labeling applicable

2.3. Other hazards which do not result in classification

No additional information available

2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Glycerin	CAS-No.: 56-81-5	40 – 60

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Name	Product identifier	%
Ligation Enzyme	CAS-No.: Mixture	37.5 – 37.5

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Move the affected person to fresh air. Get medical attention if symptoms occur.
First-aid measures after skin contact	: Gently wash with plenty of soap and water. Get medical advice if skin irritation persists.
First-aid measures after eye contact	: Rinse eyes with water as a precaution. Get medical attention if irritation develops and persists.
First-aid measures after ingestion	: Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects	: May cause slight temporary irritation.
Inhalation	: May cause minor irritation to the respiratory tract and to other mucous membranes.
Skin	: May cause slight irritation to the skin.
Eyes	: May cause minor eye irritation.
Ingestion	: May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3. Immediate medical attention and special treatment, if necessary

Not required.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

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

5.2. Specific hazards arising from the chemical

Fire hazard	: This product is not classified as flammable or combustible.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

5.3. Special protective equipment and precautions for fire-fighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures	: Wear suitable protective clothing. Avoid contact with eyes, skin and clothing.
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6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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6.2. Environmental precautions

Avoid release to the environment.

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6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Take up liquid spill into absorbent material.
Other information	: Place in a suitable container for disposal in accordance with the waste regulations (see Section 13).

6.4. Reference to other sections

No additional information available

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Avoid contact with eyes, skin and clothing. Wash hands with water and soap. Ensure adequate ventilation.
Hygiene measures	: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions	: No special storage required.
Incompatible materials	: None known.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Glycerin (56-81-5)	
USA - OSHA - Occupational Exposure Limits	
Local name	Glycerin (mist)
OSHA PEL (TWA)	15 mg/m ³ (Total dust) 5 mg/m ³ (Respirable fraction)
Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

8.2. Appropriate engineering controls

Appropriate engineering controls	: No particular/specific measures required.
Environmental exposure controls	: Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Hand protection:
No special protection required. Wear suitable gloves
Eye protection:
None under normal use. Use suitable eye protection
Skin and body protection:
None under normal conditions

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Respiratory protection:

Not required for normal conditions of use. In operations where exposure limits are exceeded or exposure levels are excessive, an approved respirator should be used. Respirator selection and use should be based on contaminant type, form and concentration. Follow applicable regulations and good Industrial Hygiene practice.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Clear, colorless liquid.
Color	: Colorless
Odor	: None
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

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

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None known.

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10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

Glycerin (56-81-5)

LD50 oral rat	27200 mg/kg (OECD 401: Acute Oral Toxicity, Rat, Female, Experimental value, Oral)
LD50 oral	25000 mg/kg body weight
LD50 dermal	56750 mg/kg (4 day(s), Guinea pig, Male / female, Experimental value, Dermal, 14 day(s))
LC50 Inhalation - Rat (Dust/Mist)	> 5.85 mg/l

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitization : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified
Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Not classified
Aspiration hazard : Not classified
Viscosity, kinematic : No data available

Glycerin (56-81-5)

Viscosity, kinematic	1119.746 mm ² /s
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Symptoms/effects : May cause slight temporary irritation.
Inhalation : May cause minor irritation to the respiratory tract and to other mucous membranes.
Skin : May cause slight irritation to the skin.
Eyes : May cause minor eye irritation.
Ingestion : May cause gastrointestinal irritation, nausea, vomiting and diarrhea.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.

Glycerin (56-81-5)

LC50 - Fish [1]	54000 mg/l (96 h, Salmo gairdneri, Static system, Fresh water, Experimental value, Lethal)
EC50 - Crustacea [1]	> 10000 mg/l (24 h, Daphnia magna, Static system, Fresh water, Experimental value, Locomotor effect)
EC50 - Other aquatic organisms [1]	> 10000 mg/l waterflea

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Glycerin (56-81-5)

EC50 - Other aquatic organisms [2]	> 10000 mg/l
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12.2. Persistence and degradability

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Persistence and degradability	Rapidly degradable
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Glycerin (56-81-5)

Persistence and degradability	Readily biodegradable in water.
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Biochemical oxygen demand (BOD)	0.87 g O ₂ /g substance
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Chemical oxygen demand (COD)	1.16 g O ₂ /g substance
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ThOD	1.217 g O ₂ /g substance
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BOD (% of ThOD)	0.71
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Ligation Enzyme (Mixture)

Persistence and degradability	No data available.
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12.3. Bioaccumulative potential

Glycerin (56-81-5)

Partition coefficient n-octanol/water (Log Pow)	-1.75 (Experimental value, Equivalent or similar to OECD 107, 25 °C)
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Bioaccumulative potential	Not bioaccumulative.
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12.4. Mobility in soil

Glycerin (56-81-5)

Surface tension	0.0634 N/m (20 °C, 1000 g/l)
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Ecology - soil	No (test)data on mobility of the substance available.
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12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Regional waste regulation	: Dispose of in accordance with applicable federal, state, and local regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with DOT / TDG / IMDG / IATA

DOT	TDG	IMDG	IATA
14.1. UN number			
Not regulated for transport			

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DOT	TDG	IMDG	IATA
14.2. Proper Shipping Name			
Not regulated	Not regulated	Not regulated	Not regulated
14.3. Transport hazard class(es)			
Not regulated	Not regulated	Not regulated	Not regulated
14.4. Packing group			
Not regulated	Not regulated	Not regulated	Not regulated
14.5. Environmental hazards			
Not regulated	Not regulated	Not regulated	Not regulated
No supplementary information available			

14.6. Special precautions for user

DOT

Not regulated

TDG

Not regulated

IMDG

Not regulated

IATA

Not regulated

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

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

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

15.2. International regulations

CANADA

Glycerin (56-81-5)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

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National regulations

Ligase
All chemical substances in this product are listed in the EPA (Environment Protection Agency) TSCA (Toxic Substances Control Act) Inventory

Ligation Enzyme (Mixture)
Listed on the Canadian DSL (Domestic Substances List)

15.3. US State regulations

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

Component	State or local regulations
Glycerin(56-81-5)	U.S. - New Jersey - Right to Know Hazardous Substance List

SECTION 16: Other information

According to 29CFR 1910.1200 OSHA Hazard Communication Standard

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Safety Data Sheet (SDS), USA

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