



Materials Safety Data Sheet

Recombinant BirA Biotin Ligase

Prepared according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations
Revision date:04/18/2019 Version: 04

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

1.1 Product Identifier

Product name Recombinant BirA Biotin Ligase
Product form Aqueous and glycerol solution
Product # BBL-301

9.1 Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture: Laboratory reagent for *in vitro* research use only

1.3 Details of the supplier of the safety data sheet

Amid Biosciences LLC
3108 Patrick Henry Drive
Santa Clara, CA 95054 USA
Phone: 1-650-237-0558
E-mail: info@amidbiosciences.com

1.4 Emergency telephone number: 1-650-237-0558 (Amid Biosciences: Monday-Friday, 8:00 AM-5:00 PM)

SECTION 2: Hazards Identification

2.1 Classification of the substance or mixture

2.2 Classification (GHS-US) Not classified

2.3 Label elements

GHS-US labeling No labeling applicable

2.4 Other hazards

Other hazards not contributing to the classification: None under normal conditions

2.5 Unknown acute toxicity (GHS-US) No data available

SECTION 3: Composition/information on ingredients

3.1 Substance

BirA Biotin Ligase, Recombinant, in aqueous and glycerol solution

3.2 Mixture

Name	Product Identifier	%
Glycerol, CAS# 56-81-5 Contains no other hazardous ingredients at levels requiring disclosure by the OSHA Hazard Communication Standard (29 CFR 1910.1200).	Ingredient in product	1 - 50

SECTION 4: First aid measures

4.1 Description of first aid measures:

First-aid measures general: never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation: remove to fresh air and keep at rest in a position comfortable for breathing.
First-aid measures after skin contact: IF ON SKIN (or clothing), remove affected clothing and wash all exposed skin with water for at least 15 minutes. If irritation persists, call a physician.
First-aid measures after eye contact: IF IN EYES: Immediately flush with plenty of water for at least 15 minutes. Obtain medical attention if pain, blinking or redness persists.
First-aid measures after ingestion: IF SWALLOWED: Immediately give large amounts of water. Do NOT induce vomiting.

4.2 Most important symptoms and effects, both acute and delayed



Recombinant BirA Biotin Ligase

Symptoms/injuries:	Not expected to present a significant hazard under anticipated conditions of normal use.
Symptoms/injuries after inhalation:	May cause respiratory irritation.
Symptoms/injuries after skin contact:	May cause skin irritation.
Symptoms/injuries after eye contact:	May cause slight temporary irritation.
Symptoms/injuries after ingestion:	May cause gastrointestinal irritation.
Chronic symptoms:	No data available.

4.3 Indication of any immediate medical attention and special treatment needed

No additional information available

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Foam. Dry powder. Carbon dioxide. Water spray.

5.2 Special hazards arising from the substance or mixture

Fire hazard:	Product is not flammable.
Explosion hazard:	Product is not explosive.
Reactivity:	No dangerous reactions known under normal conditions of use.

5.3. Advice for firefighters

Firefighting instructions:	Use water spray or fog for cooling exposed containers.
Protection during firefighting:	Exercise caution when fighting any chemical fire.
General measures:	Do not dispose of fire-fighting water in the environment.
Protection during firefighting:	Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

General measures: No specific emergency measures are required other than good. Laboratory hygiene and safety practices.

6.1.1 For non-emergency personnel

Protective equipment: Wear Protective equipment as described in Section 8.

Emergency procedures: Evacuate unnecessary personnel.

6.1.2 For emergency responders

Protective equipment: Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air respirator, in case of emergency.

6.2 Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.

6.3 Methods and material for containment and cleaning up

For containment: Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams.

Methods for cleaning up: Take up liquid spill into inert absorbent material, e.g.: sand, earth, vermiculite. Sweep or shovel spills into appropriate container for disposal. This material and its container must be disposed of in a safe way, and as per local legislation.

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: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.



Recombinant BirA Biotin Ligase

7.2 Conditions for safe storage, including any incompatibilities

Storage conditions: Keep container tightly closed in a cool, dry, and well-ventilated place.

7.3 Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Glycerol (CAS# 56-81-5):

10 mg/m³ based on USA. ACGIH Threshold Limit Values (TLV).

8.2 Exposure controls

Appropriate engineering controls:

Ensure adequate ventilation, especially in confined areas. Gloves. Protective goggles.

Personal protective equipment:

Use gloves chemically resistant to this material when prolonged or repeated contact could occur. Gloves should be classified under Standard EN 374 or ASTM F1296.

Hand protection:

Suggested glove materials are: Natural rubber ("latex"), Neoprene, Nitrile/butadiene rubber, Polyethylene, Ethyl vinyl alcohol Laminate, PVC or vinyl.

Eye protection:

Chemical goggles or safety glasses.

Chemical goggles or safety glasses.

Skin and body protection:

Wear suitable protective clothing. Wear long sleeves.

Wear suitable protective clothing. Wear long sleeves.

Eye protection:

Skin and body protection:

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties of pure Glycerol. Information on mixture not available.

Physical state:

Viscous Liquid

Color:

Clear, colorless

Odor:

Odorless

Odor Threshold:

No data available

pH:

6.5 (10 g/l as aqueous solution at 25°C)

Relative evaporation rate (butyl acetate=1):

No data available

Melting point:

No data available

Freezing point:

No data available

Boiling point:

No data available

Flash point:

No data available

Auto-ignition temperature:

No data available

Decomposition temperature:

No data available

Flammability (solid, gas):

No data available

Vapor pressure:

No data available

Relative vapor density at 20 °C:

No data available

Relative density:

No data available

Solubility in water:

Soluble

Log Pow:

No data available

Log Kow:

No data available

Viscosity, kinematic:

No data available

Viscosity, dynamic:

No data available

Explosive properties:

No data available

Oxidizing properties:

No data available

Explosive limits:

No data available

9.2 Other information

No additional information available

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known under normal conditions of use.

10.2 Chemical stability

Stable under recommended handling and storage conditions (see section 7).

10.3 Possibility of hazardous reactions

None known.

10.4 Conditions to avoid



Recombinant BirA Biotin Ligase

None known.

10.5 Incompatible materials

Strong oxidizing agents. Strong bases.

10.6 Hazardous decomposition products

Thermal decomposition generates: Carbon oxides (CO, CO₂)

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity:	No data available
Skin corrosion/irritation:	No data available
Serious eye damage/irritation:	No data available
Respiratory or skin sensitization:	No data available
Germ cell mutagenicity:	No data available
Carcinogenicity:	No data available
Reproductive toxicity:	No data available
Specific target organ toxicity (single exposure):	No data available
Specific target organ toxicity (repeated exposure):	No data available
Aspiration hazard:	No data available
Symptoms/injuries after inhalation:	No data available
Symptoms/injuries after skin contact:	No data available
Symptoms/injuries after eye contact:	No data available
Symptoms/injuries after ingestion:	No data available
Chronic symptoms:	No data available

SECTION 12: Ecological information

12.1 Toxicity

No additional information available

12.2 Persistence and degradability

Persistence and degradability: Not established

12.3 Bioaccumulative potential

No additional information available

12.4 Mobility in soil

No additional information available

12.5 Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste treatment methods:	Do not discharge to public wastewater systems without permit of pollution control authorities. No discharge to surface waters is allowed without an NPDES permit.
Waste disposal recommendations:	Dispose in a safe manner in accordance with local/national regulations.

SECTION 14: Transport information

In accordance with DOT, IATA, IMO, RID/ADR:

Not hazardous for transport

Additional information

Other information: No supplementary information available

Transport by sea

No additional information available

Air transport

No additional information available



Recombinant BirA Biotin Ligase

SECTION 15: Regulatory information

15.1 US Federal regulations Glycerol, CAS# 56-81-5	This chemical substance in this product is listed in the EPA (Environmental Protection Agency) TSCA (Toxic Substances C
15.2 International regulations CANADA	CAS# 56-81-5 is listed on Canada's DSL List. No additional information available.
EUROPEAN REGULATIONS European Labeling in accordance with EC Regulations: Hazard Symbols: Risk Phrases: Safety Phrases:	None None 24/25, Avoid contact with skin and eyes.
15.3 US State regulations California Proposition 65	This product does not contain any substances known to the state of California to cause cancer and/or reproductive harm
Glycerol (56-81-5) U.S. - Massachusetts U.S. - New Jersey U.S. - Pennsylvania	Right To Know List Right to Know Hazardous Substance List RTK (Right to Know) List

SECTION 16: Other information

Indication of changes: Revision 1.0: New MSDS Created.
Revision date: 04/19/2019
Other information: None
NFPA health hazard: 0 - Exposure under fire conditions would offer no hazard beyond that of ordinary combustible materials.
NFPA fire hazard: 0 - Materials that will not burn.
NFPA reactivity: 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.

HMIS III Rating

Health: 0
Flammability: 0
Physical: 0

This information is disclosed to the best of Amid Biosciences' knowledge. This document does not constitute a contractual relationship with product end users or handlers with respect to the possible presence of hazards in this item. Disposal should be in accordance with applicable regional, national and local laws and regulations.