

# Cas9 Nuclease, *S. pyogenes*

## Safety Data Sheet

Revision Date: 07-DEC-2017



Version: 2.0

### SECTION 1: IDENTIFICATION

#### 1.1 Product Identifier

**Product Form**

Mixture

**Product Name**

Cas9 Nuclease, *S. pyogenes*

**Product Code(s)**

CRSP004-50, CRSP004-250

#### 1.2 Intended Use of the Product

**Use of the substance/mixture**

For research use only.

#### 1.3 Name, Address, and Telephone of the Responsible Party

**Company, Manufacturer**

Canopy Biosciences  
4320 Forest Park Ave., Ste. 303  
St. Louis, MO 63108  
+1-314-833-9764  
[www.canopybiosciences.com](http://www.canopybiosciences.com)

#### 1.4 Emergency Telephone Number

**Emergency Number**

+1-314-833-9764

### SECTION 2: HAZARDS IDENTIFICATION

#### 2.1 Classification of the Substance or Mixture

**Classification (GHS-US)**

Not classified

#### 2.2 Label Elements

**GHS-US Labeling**

No labeling applicable

#### 2.3 Other Hazards

Exposure may aggravate those with pre-existing eye, skin, or respiratory conditions.

#### 2.4 Unknown Acute Toxicity (GHS-US)

No data available

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### SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

#### 3.1 Substance

Not applicable

#### 3.2 Mixture

Name	Material Identifier (CAS)	%	Classification (GHS-US)
Glycerol	56-81-5	50.00	Not classified
Water	7732-18-5	48.97	Not classified
CRISPR associated protein 9 (Cas9, <i>S. pyogenes</i> )		1.00	Not classified
Sodium Chloride	7647-14-5	0.018	Not classified
1,3-Propanediol, 2-amino-2- (hydroxymethyl)-, hydrochloride (TRIS Hydrochloride)	1185-53-1	0.004	Not Classified
Ethylenediaminetetraacetic acid disodium salt dehydrate (EDTA)	6381-92-6	0.001	Acute Tox. 4 (Inhalation), H332 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 STOT RE 3, H373

### 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

When symptoms occur go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.

##### First-aid Measures After Skin Contact

Remove contaminated clothing. Drench affected area with water for at least 15 minutes. Obtain medical attention if irritation develops or persists.

##### First-aid Measures After Eye Contact

Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention.

##### First-aid Measures After Ingestion

Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

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

#### Symptoms/Injuries

Not expected to present a significant hazard under anticipated conditions of normal use.

#### Symptoms/Injuries After Inhalation

Prolonged exposure may cause irritation.

#### Symptoms/Injuries After Skin Contact

Prolonged exposure may cause skin irritation.

#### Symptoms/Injuries After Eye Contact

May cause slight irritation to eyes.

#### Symptoms/Injuries After Ingestion

Ingestion may cause adverse effects.

### 4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

## SECTION 5: FIRE FIGHTING MEASURES

### 5.1 Extinguishing Media

#### Suitable Extinguishing Media

Water spray, dry chemical, foam, carbon dioxide.

#### Unsuitable Extinguishing Media

Do not use a heavy water stream. Use of heavy stream of water may spread fire.

### 5.2 Special Hazards Arising From the Substance or Mixture

#### Fire Hazard

Not considered flammable but may burn at high temperatures.

#### Explosion Hazard

Product is not explosive.

#### Reactivity

Hazardous reactions will not occur under normal conditions.

### 5.3 Advice for Firefighters

#### Precautionary Measures Fire

Exercise caution when fighting any chemical fire.

#### Firefighting Instructions

Use water spray or fog for cooling exposed containers.

#### Protection During Firefighting

Do not enter fire area without proper protective equipment, including respiratory protection.

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## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1 Personal Precautions, Protective Equipment and Emergency Procedures

#### General Measures

Avoid prolonged contact with eyes, skin and clothing. Avoid breathing (vapor, mist, spray).

#### 6.1.1 For Non-Emergency Personnel

##### Protective Equipment

Use appropriate personal protection equipment (PPE).

##### Emergency Procedures

Evacuate unnecessary personnel.

#### 6.1.2 For Emergency Responders

##### Protective Equipment

Equip cleanup crew with proper protection.

##### Emergency Procedures

Ventilate area. Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

### 6.2 Environmental Precautions

Prevent entry to sewers and public waters.

### 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

Clean up spills immediately and dispose of waste safely. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

## SECTION 7: HANDLING AND STORAGE

### 7.1 Precautions for Safe Handling

#### Safe Handling

Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Avoid breathing vapors, mist, spray.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety procedures.

### 7.2 Conditions for Safe Storage, Including Any Incompatibilities

#### Technical Measures

Comply with applicable regulations.

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### Storage Conditions

Keep container closed when not in use. Store in a dry, cool place. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials.

### Incompatible Products

Strong acids, strong bases, strong oxidizers.

## 7.3 Specific End Use(s)

For professional use in laboratory applications.

## SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control Parameters

For substances listed in section 3 that are not listed here, there are no established exposure limits from the manufacturer, supplier, importer, or the appropriate advisory agency including: ACGIH (TLV), NIOSH (REL), or OSHA (PEL).

Glycerol (56-81-5)		
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	15 mg/m <sup>3</sup> (mist, total particulate) 5 mg/m <sup>3</sup> (mist, respirable fraction)

### 8.2 Exposure Controls

#### Appropriate Engineering Controls

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed.

#### Personal Protective Equipment

Gloves. Protective clothing. Protective goggles.



#### Materials for Protective Clothing

Chemically resistant materials and fabrics.

#### Hand Protection

Wear protective gloves.

#### Eye Protection

Chemical safety goggles.

#### Skin and Body Protection

Wear suitable protective clothing.

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### Respiratory Protection

If exposure limits are exceeded or irritation is experienced, approved respiratory protection should be worn. In case of inadequate ventilation, oxygen deficient atmosphere, or where exposure levels are not known wear approved respiratory protection.

### Other Information

When using, do not eat, drink or smoke.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on Basic Physical and Chemical Properties

Physical State:	Liquid
Appearance:	Colorless
Odor:	No data available
Odor Threshold:	No data available
pH:	7.4
Evaporation Rate:	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:	No data available
Partition Coefficient: N-Octanol/Water:	No data available
Viscosity:	No data available

## SECTION 10: STABILITY AND REACTIVITY

### 10.1 Reactivity

Hazardous reactions will not occur under normal conditions.

### 10.2 Chemical Stability

Stable under recommended handling and storage conditions.

### 10.3 Possibility of Hazardous Reactions

Hazardous polymerization will not occur.

### 10.4 Conditions to Avoid

Direct sunlight, extremely high or low temperatures, and incompatible materials.

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### 10.5 Incompatible Materials

Strong acids, strong bases, strong oxidizers.

### 10.6. Hazardous Decomposition Products

Glycerol decomposes to produce corrosive fumes of Acrolein.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1 Information On Toxicological Effects

Acute Toxicity:	Not classified
Skin Corrosion/Irritation:	Not classified
Serious Eye Damage/Irritation:	Not classified
pH:	7.4
Respiratory or Skin Sensitization:	Not classified
Germ Cell Mutagenicity:	Not classified
Carcinogenicity:	Not classified
Reproductive Toxicity:	Not classified
Specific Target Organ Toxicity (Single Exposure):	Not classified
Specific Target Organ Toxicity (Repeated Exposure):	Not classified
Aspiration Hazard:	Not classified
Symptoms/Injuries After Inhalation:	Prolonged exposure may cause irritation.
Symptoms/Injuries After Skin Contact:	Prolonged exposure may cause skin irritation.
Symptoms/Injuries After Eye Contact:	May cause slight irritation to eyes.
Symptoms/Injuries After Ingestion:	Ingestion may cause adverse effects.

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1 Toxicity

Not Classified

### 12.2 Persistence and Degradability

Not Established

### 12.3 Bioaccumulative Potential

Not Established

### 12.4 Mobility in Soil

No information available

### 12.5 Other Adverse Effects

No information available

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### SECTION 13: DISPOSAL CONSIDERATIONS

#### 13.1 Waste Treatment Methods

##### Waste Disposal Recommendations

Dispose of contents/container in accordance with local, regional, national, and international regulations.

##### Ecology Waste Materials

Avoid release to the environment.

### SECTION 14: TRANSPORT INFORMATION

#### 14.1 In Accordance with DOT

Not regulated for transport

#### 14.2 In Accordance with IMDG

Not regulated for transport

#### 14.3 In Accordance with IATA

Not regulated for transport

### SECTION 15: REGULATORY INFORMATION

#### 15.1 US Federal Regulations

<b>Glycerol (56-81-5)</b>
SARA Section 311/312 Hazard Classes: Chronic health hazard

<b>Ethylenediaminetetraacetic acid disodium salt dihydrate (6381-92-6)</b>
SARA Section 311/312 Hazard Classes: Chronic health hazard

#### 15.2 US State Regulations

<b>Glycerol (56-81-5)</b>
U.S. - Massachusetts - Right to Know List
U.S. - New Jersey - Right to Know List
U.S. - Pennsylvania - Right to Know List

<b>1,3-Propanediol, 2-amino-2-(hydroxymethyl)-, hydrochloride (1185-53-1)</b>
U.S. - New Jersey - Right to Know List
U.S. - Pennsylvania - Right to Know List

<b>Ethylenediaminetetraacetic acid disodium salt dihydrate (6381-92-6)</b>
U.S. - New Jersey - Right to Know List
U.S. - Pennsylvania - Right to Know List



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### California Prop. 65 Components

Does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

## SECTION 16: OTHER INFORMATION

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### Other Information

This document has been prepared in accordance with the SDS requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200.

### GHS Full Text Phrases

Acute Tox. 4 (Inhalation)	Acute toxicity (inhalation) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral) Category 4
Eye Irrit. 2A	Serious eye damage/eye irritation Category 2A
Skin Irrit. 2	Skin corrosion/irritation Category 2
STOT SE	Specific target organ toxicity (single exposure)
STOT RE	Specific target organ toxicity (repeated exposure)
H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H332	Harmful if inhaled
H373	May cause damage to organs through prolonged or repeated exposure if inhaled

*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.*

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