

# Material Safety Datasheet (MSDS)

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**saCas9 Nuclease Protein (High Concentration) (Cat. No. K144)**

Part. No.	Component Description
E026	saCas9 Nuclease Protein
E204	10X Cas9 Reaction Buffer



**Applied Biological Materials Inc.**

1-3671 Viking Way, Richmond  
BC, CANADA, V6V 2J5  
[www.abmgood.com](http://www.abmgood.com)

**Updated: 07/15/2022**  
**Version 2.2**



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Version 2.2

www.abmgood.com

Applied Biological Materials Inc.

1-3671 Viking Way,

Richmond, BC, CANADA

V6V 2J5

## Section 1 – Product and Company Information

Product Name	saCas9 Nuclease Protein
Original Manufacturer	Applied Biological Materials, Inc
Address	#1-3671 Viking Way Richmond BC V6V 2J5 CA
Technical Phone	604-247-2416

Company	Applied Biological Materials Inc.
Address	#1-3671 Viking Way Richmond BC V6V 2J5 CA
Technical Phone	604-247-2416
Fax	604-247-2414
Emergency Phone	866-757-2414

## Section 2 – Composition/Information on Ingredient

Substance Name	Glycerol
Formula	$C_3H_8O_3$
CAS Number	56-81-5
EEC-No	200-289-5
% by Weight	30-60%
Other Components	Components not listed here are not hazardous or their concentrations do not exceed the limits specified in the OSHA Hazard Communication Standard 29 CFR 1910.1200.

### Section 3 – Hazards Identification

<b>HMIS Classification</b>	<ul style="list-style-type: none"><li>• Health Hazard: 2</li><li>• Flammability: 0</li><li>• Reactivity: 0</li></ul>
<b>NFPA Rating</b>	<ul style="list-style-type: none"><li>• Health: 0</li><li>• Flammability: 0</li><li>• Reactivity: 0</li></ul>

### Section 4 – First Aid Measures

<b>Eye Contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
<b>Skin Contact</b>	Wash off with soap and plenty of water. Consult a physician if persistent rash develops.
<b>Inhalation</b>	If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician if breathing becomes difficult.
<b>Ingestion</b>	Never give anything by mouth to an unconscious person. Rinse mouth with water. Seek medical advice immediately.

### Section 5 – Fire Fighting Measures

<b>Suitable Extinguishing Media</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
<b>Specific Hazards</b>	Emits toxic fumes under fire conditions.

### Section 6 – Accidental Release Measures

<b>Personal Precautions</b>	Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of dust. Ensure adequate ventilation.
<b>Methods for Cleaning Up</b>	Wear protective eyewear, gloves and clothing. Keep in suitable closed containers for disposal.

### Section 7 – Handling and Storage

<b>Handling</b>	User Exposure: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.
<b>Storage</b>	Suitable: Keep tightly closed. Store at -20°C.

## Section 8 – Exposure Controls/ PPE

<b>Engineering Controls</b>	Safety shower and eye bath. Mechanical exhaust required.
<b>Personal Protective Equipment</b>	<ul style="list-style-type: none"> <li>Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks.</li> <li>Hand: Protective gloves.</li> <li>Eye: Chemical safety goggles.</li> </ul>
<b>General Hygiene Measures</b>	Wash thoroughly after handling.

## Section 9 – Physical and Chemical Properties

<b>Form</b>	Liquid, viscous.
<b>Odour</b>	Odourless.
<b>Melting Point</b>	18.17 °C
<b>Boiling Temperature (°C)</b>	290 °C
<b>Density</b>	No data available.
<b>Vapour Pressure</b>	0.26 hPa at 100 °C (212 °F) 5.7 hPa at 150 °C(302 °F)
<b>Solubility in Water</b>	miscible
<b>Flash Point</b>	199 °C
<b>Explosion Limits</b>	Upper explosion limit: 19 %(V) at 1013 hPa Lower explosion limit: 2.7 %(V) at 1013 hPa
<b>Ignition Temperature</b>	370 °C

## Section 10 – Stability and Reactivity

<b>Stability</b>	<ul style="list-style-type: none"> <li>Stability: Stable.</li> <li>Materials to Avoid: No dangerous reaction known under normal conditions.</li> </ul>
<b>Hazardous Decomposition Products</b>	<ul style="list-style-type: none"> <li>Hazardous Decomposition Products: None under normal conditions.</li> </ul>
<b>Hazardous Polymerization</b>	<ul style="list-style-type: none"> <li>Hazardous Polymerization: Will not occur.</li> </ul>

## Section 11 – Toxicological Information

<b>Route of Exposure</b>	<ul style="list-style-type: none"><li>• Skin Contact: May cause skin irritation.</li><li>• Skin Absorption: May be harmful if absorbed through the skin.</li><li>• Eye Contact: May cause eye irritation.</li><li>• Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.</li><li>• Ingestion: May be harmful if swallowed.</li></ul>
<b>Signs and Symptoms of Exposure</b>	Prolonged exposure can cause nausea, headache, and vomiting. Chronic effects may target kidneys.

## Section 12 – Ecological Information

N/A

## Section 13 – Disposal Considerations

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

## Section 14 – Transportation Information

<b>DOT</b>	<ul style="list-style-type: none"><li>• Proper Shipping Name: None</li><li>• Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.</li></ul>
<b>IATA</b>	<ul style="list-style-type: none"><li>• Non-Hazardous for Air Transport: Non-hazardous for air transport.</li></ul>

## Section 15 – Regulatory Information

- WHMIS Classification: This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
- DSL: No
- NDSL: No

## Section 16 – Other Information

The information contained in this Material Safety Datasheet is believed to be accurate but it is the responsibility of the user or supplier to determine the applicability of these data to the formulation of necessary safety precautions.

Applied Biological Materials Inc. shall not be held responsible for any damage resulting from the use of the above product or the information contained in this Material Safety Datasheet.



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Technical Phone	604-247-2416

Company	Applied Biological Materials Inc.
Address	#1-3671 Viking Way Richmond BC V6V 2J5 CA
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## Section 2 – Composition/Information on Ingredient

Other Components	Components not listed here are not hazardous or their concentrations do not exceed the limits specified in the OSHA Hazard Communication Standard 29 CFR 1910.1200.
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## Section 3 – Hazards Identification

HMIS Classification	<ul style="list-style-type: none"><li>• Health Hazard: 2</li><li>• Flammability: 0</li><li>• Reactivity: 0</li></ul>
NFPA Rating	<ul style="list-style-type: none"><li>• Health: 2</li><li>• Flammability: 0</li><li>• Reactivity: 0</li></ul>

## Section 4 – First Aid Measures

<b>Eye Contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
<b>Skin Contact</b>	Wash off with soap and plenty of water. Consult a physician.
<b>Inhalation</b>	If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.
<b>Ingestion</b>	Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

## Section 5 – Fire Fighting Measures

<b>Suitable Extinguishing Media</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
<b>Specific Hazards</b>	No special measures required.

## Section 6 – Accidental Release Measures

<b>Personal Precautions</b>	Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of dust. Ensure adequate ventilation.
<b>Methods for Cleaning Up</b>	Wear protective eyewear, gloves and clothing. Keep in suitable closed containers for disposal.

## Section 7 – Handling and Storage

<b>Handling</b>	User Exposure: Avoid inhalation. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.
<b>Storage</b>	Suitable: Keep tightly closed. Store at -20°C.

## Section 8 – Exposure Controls/ PPE

<b>Engineering Controls</b>	Safety shower and eye bath. Mechanical exhaust required.
<b>Personal Protective Equipment</b>	<ul style="list-style-type: none"><li>• Respiratory: Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks.</li><li>• Hand: Protective gloves.</li><li>• Eye: Chemical safety goggles.</li></ul>
<b>General Hygiene Measures</b>	Wash thoroughly after handling.

## Section 9 – Physical and Chemical Properties

<b>Form</b>	Liquid.
<b>Odour</b>	Mild.
<b>Melting Point</b>	No data available.
<b>Boiling Temperature (°C)</b>	No data available.
<b>Density</b>	No data available.
<b>Vapour Pressure</b>	No data available.
<b>Solubility in Water</b>	No data available.
<b>Flash Point</b>	No data available.
<b>Explosion Limits</b>	No data available.
<b>Ignition Temperature</b>	No data available.

## Section 10 – Stability and Reactivity

<b>Stability</b>	<ul style="list-style-type: none"><li>• Stability: Stable.</li><li>• Materials to Avoid: No dangerous reaction known under normal conditions.</li></ul>
<b>Hazardous Decomposition Products</b>	<ul style="list-style-type: none"><li>• Hazardous Decomposition Products: None under normal conditions.</li></ul>
<b>Hazardous Polymerization</b>	<ul style="list-style-type: none"><li>• Hazardous Polymerization: Will not occur.</li></ul>

## Section 11 – Toxicological Information

<b>Route of Exposure</b>	<ul style="list-style-type: none"><li>• Skin Contact: May cause skin irritation.</li><li>• Skin Absorption: May be harmful if absorbed through the skin.</li><li>• Eye Contact: May cause eye irritation.</li><li>• Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled.</li><li>• Ingestion: May be harmful if swallowed.</li></ul>
<b>Signs and Symptoms of Exposure</b>	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## Section 12 – Ecological Information

N/A



## Section 13 – Disposal Considerations

Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Observe all federal, state, and local environmental regulations.

## Section 14 – Transportation Information

<b>DOT</b>	<ul style="list-style-type: none"><li>• Proper Shipping Name: None</li><li>• Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.</li></ul>
<b>IATA</b>	<ul style="list-style-type: none"><li>• Non-Hazardous for Air Transport: Non-hazardous for air transport.</li></ul>

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