



**Safety Data Sheet (SDS)** According to the OSHA Hazard Communication Standard 29 CFR 1910.1200

**Issuing Date:** 2017-07-10

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**Version:** 2

## SECTION 1. Identification

### Product identifier

**Product No** 12399  
**Product name** Malic Enzyme (Mitochondrial) Antibody

### Recommended use of the chemical and restrictions on use

**Identified uses** For Research Use Only. Not for Use in Diagnostic Procedures.

### Manufacturer, importer, supplier

**Manufacturer address** Cell Signaling Technology, Inc.  
3 Trask Lane  
Danvers, MA 01923  
United States  
TEL: +1 978 867 2300  
FAX: +1 978 867 2400  
**Website** www.cellsignal.com  
**Email address** support@cellsignal.com  
**Emergency telephone number** In case of emergency call CHEMTREC 1-800-424-9300

## SECTION 2. Hazard(s) identification

### Classification

This substance/mixture is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

### GHS Label elements, including precautionary statements

**Signal Word**  
None.

**Hazard statement(s)**  
None.

**Precautionary Statement(s)**  
None.

### Supplementary Hazard Information

**Hazards not otherwise classified (HNOC)**  
Not applicable.

**SECTION 3. Composition/information on ingredients****Chemical nature** Mixture

| Chemical name | CAS No  | Weight-% |
|---------------|---------|----------|
| glycerol      | 56-81-5 | 30-60    |

**SECTION 4. First-aid measures**

**Eye contact** Rinse thoroughly with plenty of water, also under the eyelids.  
**Skin contact** Wash skin with soap and water.  
**Inhalation** Move to fresh air.  
**Ingestion** Clean mouth with water and afterwards drink plenty of water.

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

No information available.

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

Treat symptomatically.

**Advice for emergency responders**

**General advice** For further assistance, contact your local Poison Control Center.  
**Protection of first-aiders** Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves

**SECTION 5. Fire-fighting measures****Extinguishing media**

**Suitable Extinguishing Media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable Extinguishing Media** No information available.

**Specific hazards arising from the chemical**

No information available.

**Explosion Data**

**Sensitivity to Mechanical Impact** None.  
**Sensitivity to Static Discharge** None.

**Protective Equipment and Precautions for Firefighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

**SECTION 6. Accidental release measures****Personal precautions, protective equipment and emergency procedures**

|                                    |                                                                                                                       |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| <b>For non-emergency personnel</b> | Avoid contact with skin, eyes and clothing. Use personal protective equipment. For personal protection see section 8. |
| <b>Other information</b>           | No information available.                                                                                             |

**Environmental precautions**

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. Prevent entry into waterways, sewers, basements or confined areas.

**Methods and material for containment and cleaning up**

|                                |                                                                                             |
|--------------------------------|---------------------------------------------------------------------------------------------|
| <b>Methods for containment</b> | Prevent further leakage or spillage if safe to do so.                                       |
| <b>Methods for cleaning up</b> | Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. |

## SECTION 7. Handling and storage

**Precautions for safe handling**

Handle in accordance with good industrial hygiene and safety practice. Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use.

**Conditions for safe storage, including any incompatibilities**

|                                              |                                                                          |
|----------------------------------------------|--------------------------------------------------------------------------|
| <b>Technical measures/Storage conditions</b> | Keep containers tightly closed in a dry, cool and well-ventilated place. |
| <b>Packaging material</b>                    | No information available.                                                |
| <b>Incompatible products</b>                 | None known based on information supplied.                                |

## SECTION 8. Exposure controls/personal protection

**Control parameters**

| Chemical name | ACGIH TLV | OSHA PEL                                                                                                | NIOSH REL |
|---------------|-----------|---------------------------------------------------------------------------------------------------------|-----------|
| glycerol      | -         | TWA mist, total particulate: 15 mg/m <sup>3</sup><br>TWA mist, respirable fraction: 5 mg/m <sup>3</sup> | -         |

**Appropriate engineering controls**

Showers, eyewash stations, and ventilation systems.

**Individual protection measures, such as personal protective equipment**

Personal protective equipment (PPE) needs to be selected depending on the implemented engineering controls, frequency/duration of work activities and the concentrations of the hazardous substance.

|                                 |                                                                                                                  |
|---------------------------------|------------------------------------------------------------------------------------------------------------------|
| <b>Eye/face protection</b>      | Safety glasses with side-shields                                                                                 |
| <b>Skin and body protection</b> | Wear protective gloves/clothing.                                                                                 |
| <b>Respiratory protection</b>   | When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. |
| <b>Hygiene measures</b>         | Handle in accordance with good industrial hygiene and safety practice.                                           |

## SECTION 9. Physical and chemical properties

**Information on basic physical and chemical properties**

|                       |                          |
|-----------------------|--------------------------|
| <b>Physical state</b> | Liquid                   |
| <b>Appearance</b>     | Clear                    |
| <b>Color</b>          | Colorless                |
| <b>Odor</b>           | No information available |
| <b>Odor Threshold</b> | No information available |

| <b>Property</b>                                                 | <b>Values</b>             | <b>Remarks</b> | <b>Method</b> |
|-----------------------------------------------------------------|---------------------------|----------------|---------------|
| <b>pH</b>                                                       | 7.5                       | @ 20 °C        |               |
| <b>Melting point/freezing point</b>                             | No information available  |                |               |
| <b>Boiling point or initial boiling point and boiling range</b> | No information available  |                |               |
| <b>Flash point</b>                                              | No information available  | -              |               |
| <b>Evaporation rate</b>                                         | No information available  |                |               |
| <b>Flammability</b>                                             | No information available  |                |               |
| <b>Lower flammability limit</b>                                 | No information available  |                |               |
| <b>Upper flammability limit</b>                                 | No information available  |                |               |
| <b>Vapor pressure</b>                                           | No information available  |                |               |
| <b>Relative vapor density</b>                                   | No information available  |                |               |
| <b>Density and/or relative density</b>                          | No information available  |                |               |
| <b>Solubility</b>                                               | No information available. |                |               |
| <b>Solubility in other solvents</b>                             | No information available. |                |               |
| <b>Partition coefficient: n-octanol/water</b>                   | No information available  |                |               |
| <b>Autoignition temperature</b>                                 | No information available  |                |               |
| <b>Decomposition temperature</b>                                | No information available  |                |               |
| <b>Viscosity</b>                                                | No information available  |                |               |
| <b>Viscosity, dynamic</b>                                       | No information available  |                |               |

**Other information**

|                         |                          |
|-------------------------|--------------------------|
| <b>Softening point</b>  | No information available |
| <b>Molecular Weight</b> | No information available |
| <b>VOC content</b>      | No information available |
| <b>Liquid Density</b>   | No information available |
| <b>Bulk density</b>     | No information available |

**SECTION 10. Stability and reactivity****Reactivity**

No information available.

**Chemical stability**

Stable under normal conditions.

**Possibility of hazardous reactions**

|                                 |                               |
|---------------------------------|-------------------------------|
| <b>Hazardous reactions</b>      | None under normal processing. |
| <b>Hazardous polymerization</b> | None under normal processing. |

**Conditions to Avoid**

Extremes of temperature and direct sunlight.

**Incompatible Materials**

None known based on information supplied.

**Hazardous Decomposition Products**

None known based on information supplied

**SECTION 11. Toxicological information****Information on likely routes of exposure**

|                     |                                                                                 |
|---------------------|---------------------------------------------------------------------------------|
| <b>Inhalation</b>   | Avoid breathing vapors or mists.                                                |
| <b>Eye contact</b>  | Avoid contact with eyes.                                                        |
| <b>Skin contact</b> | Avoid contact with skin.                                                        |
| <b>Ingestion</b>    | Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. |

**Information on toxicological effects**

This product is for experimental uses only. The product has not been completely analyzed and all of the hazards may not be known. Please use caution while handling this product.

| Chemical name | LD50 Oral           | LD50 Dermal        | LC50 Inhalation                   |
|---------------|---------------------|--------------------|-----------------------------------|
| glycerol      | = 12600 mg/kg (Rat) | > 10 g/kg (Rabbit) | > 570 mg/m <sup>3</sup> (Rat) 1 h |

|                                      |                   |
|--------------------------------------|-------------------|
| <b>ATEmix (oral)</b>                 | >5000 mg/kg (ATE) |
| <b>ATEmix (dermal)</b>               | >5000 mg/kg (ATE) |
| <b>ATEmix (inhalation-dust/mist)</b> | >5 mg/l (ATE)     |

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

|                                 |                                                                                                                                                                          |
|---------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Symptoms</b>                 | No information available.                                                                                                                                                |
| <b>Sensitization</b>            | No information available.                                                                                                                                                |
| <b>Mutagenic effects</b>        | No information available.                                                                                                                                                |
| <b>Carcinogenicity</b>          | No component of this product present at levels greater than or equal to 0.1% is identifiable as probable, possible or confirmed carcinogen by IARC, ACGIH, NTP, or OSHA. |
| <b>Reproductive toxicity</b>    | No information available.                                                                                                                                                |
| <b>STOT - single exposure</b>   | No information available.                                                                                                                                                |
| <b>STOT - repeated exposure</b> | No information available.                                                                                                                                                |
| <b>Neurological effects</b>     | No information available.                                                                                                                                                |
| <b>Aspiration Hazard</b>        | No information available.                                                                                                                                                |

**SECTION 12. Ecological information****Ecotoxicity**

| Chemical name | Toxicity to algae | Toxicity to fish                             | Toxicity to daphnia and other aquatic invertebrates |
|---------------|-------------------|----------------------------------------------|-----------------------------------------------------|
| glycerol      | -                 | LC50 51 - 57 mL/L (Oncorhynchus mykiss) 96 h | EC50 500 mg/L (Daphnia magna) 24 h                  |

|                                      |                          |
|--------------------------------------|--------------------------|
| <b>Persistence and degradability</b> | No information available |
| <b>Mobility</b>                      | No information available |
| <b>Bioaccumulation</b>               |                          |

| Chemical name | Octanol-Water Partition Coefficient |
|---------------|-------------------------------------|
| glycerol      | -1.76                               |

**Other adverse effects**

No information available.

### SECTION 13. Disposal considerations

#### Waste Disposal Methods

Dispose of in accordance with all applicable national environmental laws and regulations.

#### Disposal considerations

Do not empty into drains; dispose of this material and its container in a safe way. Dispose of wastes in an approved waste disposal facility.

### SECTION 14. Transport information

This material is not subject to regulation as a hazardous material for shipping.

### SECTION 15. Regulatory information

#### North American Inventory Listing

| Chemical name | TSCA 8(b) | TSCA 12(b) | DSL    | NDSL       |
|---------------|-----------|------------|--------|------------|
| glycerol      | Listed    | Not Listed | Listed | Not Listed |

#### Canadian Workplace Hazardous Materials Information System (WHMIS) Classification

This product does not meet the criteria for classification under the Hazardous Products Act.

#### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

#### SARA 311/312 Hazard Categories

|                                   |    |
|-----------------------------------|----|
| Acute Health Hazard               | No |
| Chronic Health Hazard             | No |
| Fire Hazard                       | No |
| Sudden Release of Pressure Hazard | No |
| Reactive Hazard                   | No |

#### Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

#### CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and

Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

**California Proposition 65**

This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

| Chemical name | New Jersey | Massachusetts | Pennsylvania |
|---------------|------------|---------------|--------------|
| glycerol      | Listed     | Listed        | Listed       |

**U.S. FIFRA Label Information**

This product does not contain any substances regulated as pesticides.

**US Commerce Department - Export Administration Regulations Information**

This product does not contain any substances regulated under the Chemical Weapons Convention (CWC).

**U.S. Drug Enforcement Administration Information**

This product does not contain any substances regulated under the DEA.

|                                      |
|--------------------------------------|
| <b>SECTION 16. Other information</b> |
|--------------------------------------|

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**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet