



# Cell Signaling

TECHNOLOGY®

**SAFETY DATA SHEET (SDS):** According to the OSHA Hazard Communication Standard 29 CFR 1910.1200

**Issuing Date:** 2014-06-20

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**Version:** 1

## SECTION 1. Identification

### Product identifier

**Product number** 2532  
**Product name** AMPK $\alpha$  Antibody

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

**Identified uses** This product is intended for research purposes only.  
**Uses advised against** This product is not intended for use in diagnostic procedures or therapeutics.  
This product is not intended for use in humans or animals.

### 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  
**Company phone number** 978-867-2300  
**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)** None.

## SECTION 3. Composition/information on ingredients

**Chemical nature** Aqueous buffer solution

| Chemical Name  | CAS No     | Weight % |
|--|------------|----------|
| glycerol   | 56-81-5    | 30-60    |
| sodium chloride  | 7647-14-5  | 0.1-1    |
| sodium<br>4-(2-hydroxyethyl)piperazin-1-ylethanesulphonate | 75277-39-3 | 0.1-1    |

#### SECTION 4. First-aid measures

**Eye contact** Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing.

**Skin contact** Consult a physician if necessary. Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

**Inhalation** Move to fresh air. Consult a physician. If not breathing, give artificial respiration.

**Ingestion** Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. Do NOT induce vomiting. If swallowed, do not induce vomiting - seek medical advice. Never give anything by mouth to an unconscious person.

#### 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** If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance. Do not breathe dust/fume/gas/mist/vapors/spray.

**Protection of first-aiders** Use personal protective equipment.

#### 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** CAUTION: Use of water spray when fighting fire may be inefficient.

#### 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

**For non-emergency personnel** Ensure adequate ventilation.

**Other information** No information available.

**Environmental precautions**

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system.

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

Prevent further leakage or spillage if safe to do so.

Cover liquid spill with sand, earth or other noncombustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Pick up and transfer to properly labeled containers.

**SECTION 7. Handling and storage****Precautions for safe handling**

Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Prevent the formation of vapors, mists and aerosols. Do not eat, drink or smoke when using this product.

**Conditions for safe storage, including any incompatibilities****Technical measures/Storage conditions**

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children.

**Packaging material**

No information available.

**Incompatible products**

Strong oxidizing agents.

**SECTION 8. Exposure controls/personal protection****Control parameters**

| Occupational exposure limit values |           |   |           |
|------------------------------------|-----------|---|-----------|
| 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.

**Eye/face protection**

Tightly fitting safety goggles.

**Skin and body protection**

Wear protective gloves/clothing.

**Respiratory protection**

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

**Hygiene measures**

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>Odor</b>                                    | No information available  |
| <b>Color</b>                                   | Colorless                 |
| <b>Odor Threshold</b>                          | No information available  |
| <b>pH</b>                                      | 7.4 @ 20 °C               |
| <b>Melting point/freezing point</b>            | No information available  |
| <b>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 (solid, gas)</b>               | No information available  |
| <b>Upper flammability limit</b>                | No information available. |
| <b>Lower flammability limit</b>                | No information available. |
| <b>Vapor pressure</b>                          | No information available  |
| <b>Vapor density</b>                           | No information available  |
| <b>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>Explosive properties</b>                    | No information available  |
| <b>Oxidizing properties</b>                    | No information available  |
| <b>VOC content</b>                             | No information available  |
| <b>Viscosity</b>                               | No information available. |
| <b>Density</b>                                 | No information available. |

## SECTION 10. Stability and reactivity

### Reactivity

No information available.

### Chemical stability

Stable under recommended storage conditions.

### Possibility of hazardous reactions

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

### Conditions to Avoid

No information available.

### Incompatible Materials

Strong oxidizing agents.

### Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors: Acrolein. Hydrogen chloride.

## SECTION 11. Toxicological information

### Information on likely routes of exposure

|                    |   |
|--------------------|---|
| <b>Inhalation</b>  | Mist may be injurious to the kidneys at very high exposure levels. Not an expected route of exposure. |
| <b>Eye contact</b> | Contact with eyes may cause mild irritation.  |

|                     |   |
|---------------------|---|
| <b>Skin contact</b> | No known hazard in contact with skin.   |
| <b>Ingestion</b>    | Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. |

**Information on toxicological effects**

This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

| Chemical Name   | LD50 Oral           | LD50 Dermal              | LC50 Inhalation                       |
|-----------------|---------------------|--------------------------|---------------------------------------|
| glycerol        | 12600 mg/kg ( Rat ) | > 10000 mg/kg ( Rabbit ) | -                                     |
| sodium chloride | 3000 mg/kg ( Rat )  | > 10000 mg/kg ( Rabbit ) | > 42000 mg/m <sup>3</sup> ( Rat ) 1 h |

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

|  |   |
|--|---|
| <b>Symptoms</b>                          | No information available.   |
| <b>Serious eye damage/eye irritation</b> | Mild / Nonirritant: OECD TG 437 (Bovine Corneal Opacity and Permeability (BCOP)).   |
| <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>Target Organ Effects</b>              | Eyes, Respiratory system, Kidney.   |
| <b>Neurological effects</b>              | No information available.   |
| <b>Aspiration Hazard</b>                 | No information available.   |
| <b>Other information</b>                 | glycerol: NOAEL (inhalation: 6 h/d, 5d/week) = 0.167 mg/L (Rat) 13 weeks<br>glycerol: LOAEL (inhalation: 6 h/d, 5d/week) = 1-4 mg/L (Rat) 2 weeks<br>(Source: IUCLID / Method: Directive 87/302/EEC, part B "Sub-chronic inhalation toxicity study: 90-day repeated dose study using rodent species") |

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

Product does not present an aquatic toxicity hazard based on known or supplied information.

| 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   |
| sodium chloride | -                 | LC50 4747 - 7824 mg/L (Oncorhynchus mykiss) 96 h LC50 12946 mg/L (Lepomis macrochirus) 96 h LC50 5560 - 6080 mg/L (Lepomis macrochirus) 96 h LC50 6420 - 6700 mg/L (Pimephales promelas) 96 h LC50 7050 mg/L (Pimephales promelas) 96 h LC50 6020 - 7070 mg/L (Pimephales promelas) 96 h | EC50 340.7 - 469.2 mg/L (Daphnia magna) 48 h EC50 1000 mg/L (Daphnia magna) 48 h |

|                                      |  |
|--------------------------------------|--|
| <b>Persistence and degradability</b> | Product is biodegradable.  |
| <b>Bioaccumulation</b>               | Not likely to bioaccumulate.   |
| <b>Mobility</b>                      | Will likely be mobile in the environment due to its water solubility |

| 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.

### 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 |
| sodium chloride  | Listed    | Not Listed | Listed     | Not Listed |
| sodium<br>4-(2-hydroxyethyl)piperazin-1-yl<br>ethanesulphonate | Listed    | Not Listed | Not Listed | 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**

|  |    |
|--|----|
| <b>Acute Health Hazard</b>               | No |
| <b>Chronic Health Hazard</b>             | No |
| <b>Fire Hazard</b>                       | No |
| <b>Sudden Release of Pressure Hazard</b> | No |
| <b>Reactive Hazard</b>                   | 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**

This product contains the following U.S. State Right to Know chemicals:

| 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.

**SECTION 16. Other information**

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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