



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

Issuing Date: 2018-04-26

Version: 1

SECTION 1. Identification

Product identifier

Product No 5723
Product name Caspase-3 Activity Assay Kit
Kit Component **Ac-DEVD-AMC Fluorescent Substrate**
AMC (7-amino-4-methylcoumarin)
PathScan® Sandwich ELISA Lysis Buffer (1X)
Caspase Assay Buffer (2X)
DTT (Dithiothreitol)

Recommended use of the chemical and restrictions on use

Identified uses This product is intended for research purposes only.

Manufacturer, importer, supplier

Manufacturer address Cell Signaling Technology, Inc.
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Danvers, MA 01923
United States
TEL: +1 978 867 2300
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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

Classification and label elements described below are inclusive of all hazards of the combined kit. The most severe classifications are listed for each endpoint. Refer to individual kit component SDS for classification and label elements for each component present in the kit.

Acute oral toxicity	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity - single exposure (STOT SE)	Category 3

GHS Label elements, including precautionary statements

**Signal Word**

Warning

Hazard statement(s)

Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.

Precautionary Statement(s)

Avoid breathing dust/fume/gas/mist/vapors/spray. Wash face, hands and any exposed skin thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well-ventilated area. Wear protective gloves/eye protection/face protection.

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Store in a well-ventilated place. Keep container tightly closed. Store locked up.

Dispose of contents/container to an approved waste disposal plant.

Supplementary Hazard Information

No information available.

Hazards not otherwise classified (HNOC)

Not applicable.

SECTION 3. Composition/information on ingredients

Kit Component Name Ac-DEVD-AMC Fluorescent Substrate

Chemical Name	CAS No	Weight %
Caspase 3 (Apopain) Substrate 1m, fluorogenic	NOT LISTED	100

Kit Component Name AMC (7-amino-4-methylcoumarin)

Chemical Name	CAS No	Weight %
dimethyl sulfoxide	67-68-5	2.5
7-Amino-4-methylcoumarin	26093-31-2	<0.01

Kit Component Name PathScan® Sandwich ELISA Lysis Buffer

Chemical Name	CAS No	Weight %
polyethylene glycol	9002-93-1	1
p-(1,1,3,3-tetramethylbutyl)phenylether		
sodium fluoride	7681-49-4	0.1-1

Kit Component Name Caspase Assay Buffer (2X)

Chemical Name	CAS No	Weight %
glycerol	56-81-5	20

Kit Component Name DTT (Dithiothreitol)

Chemical Name	CAS No	Weight %
(R*,R*)-1,4-dimercaptobutane-2,3-diol	3483-12-3	60-100

SECTION 4. First-aid measures

Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
Inhalation	Move to fresh air.
Ingestion	Call a physician immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Rinse mouth.

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

Specific hazards arising from the chemical

No information available.

Hazardous Combustion Products	Thermal decomposition can lead to release of irritating and toxic gases and vapors.
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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	Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation. Avoid breathing vapors or mists.
Other information	No information available.

Environmental precautions

See Section 12 for additional information.

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.
Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers. Sweep up and shovel into suitable containers for disposal. Prevent product from entering drains. Keep in suitable, closed containers for disposal.

SECTION 7. Handling and storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment. Prevent the formation of vapors, mists and aerosols.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep container tightly closed in a dry and well-ventilated place. Keep in properly labeled containers.
Packaging material No information available.
Incompatible products Strong oxidizing agents.

SECTION 8. Exposure controls/personal protection

Control parameters

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH REL
glycerol	-	TWA mist, total particulate: 15 mg/m ³ TWA mist, respirable fraction: 5 mg/m ³	-
sodium fluoride	TWA : 2.5 mg/m ³	TWA : 2.5 mg/m ³	IDLH : 250 mg/m ³ TWA : 2.5 mg/m ³

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 Safety glasses with side-shields.
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 Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Provide regular cleaning of equipment, work area and clothing.

SECTION 9. Physical and chemical properties

Information on the known physical chemical properties of each component within Kit are given below. If not included, information is either not available or not applicable. Refer to individual kit component SDS for further information.

Information on basic physical and chemical properties

Kit Component	Ac-DEVD-AMC Fluorescent Substrate
Physical state	Solid
Appearance	Powder
Color	White
Kit Component	AMC (7-amino-4-methylcoumarin)
Physical state	Liquid
Color	Yellow
Kit Component	PathScan® Sandwich ELISA Lysis Buffer (1X)
Physical state	Liquid
Appearance	Clear
Color	Colorless
pH VALUE	7.5
Kit Component	Caspase Assay Buffer (2X)
Physical state	Liquid
Appearance	Clear
Kit Component	DTT (Dithiothreitol)
Physical state	Solid
Appearance	Powder
Color	White

SECTION 10. Stability and reactivity**Reactivity**

No information available.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Hazardous reactions	None under normal processing.
Hazardous polymerization	None under normal processing.

Conditions to Avoid

Protect from light.

Incompatible Materials

Strong oxidizing agents.

Hazardous Decomposition Products

Thermal decomposition can lead to release of irritating gases and vapors. Carbon oxides (COx). Nitrogen oxides (NOx).

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

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.

Inhalation

Kit Component Inhalation	Ac-DEVD-AMC Fluorescent Substrate May be harmful if inhaled
Kit Component Inhalation	DTT (Dithiothreitol) Inhalation of vapors in high concentration may cause irritation of respiratory system

Eye contact

Kit Component Eye contact	PathScan® Sandwich ELISA Lysis Buffer (1X) Expected to be an irritant based on components
Kit Component Eye contact	DTT (Dithiothreitol) Contact with eyes may cause irritation

Skin contact

Kit Component Skin contact	Ac-DEVD-AMC Fluorescent Substrate May cause irritation
Kit Component Skin contact	DTT (Dithiothreitol) May cause irritation

Ingestion

Kit Component Ingestion	DTT (Dithiothreitol) May be harmful if swallowed
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Information on toxicological effects

Component Information

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
(R*,R*)-1,4-dimercaptobutane-2,3-diol	400 mg/kg (Rat)	-	-
glycerol	= 12600 mg/kg (Rat)	> 10 g/kg (Rabbit)	> 570 mg/m ³ (Rat) 1 h
dimethyl sulfoxide	14500 mg/kg (Rat)	40000 mg/kg (Rat)	-
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	= 1800 mg/kg (Rat)	-	-
sodium fluoride	= 52 mg/kg (Rat)	= 175 mg/kg (Rat)	-

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

Symptoms No information available.

Skin and Eye Corrosion/Irritation

Kit Component Skin corrosion/irritation	DTT (Dithiothreitol) Causes skin irritation
Serious eye damage/eye irritation	Causes serious eye irritation

Sensitization No information available

Mutagenic effects	No information available
Carcinogenicity	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.
Reproductive toxicity	No information available.
Systemic Target Organ Toxicity (STOT)	
Kit Component	DTT (Dithiothreitol)
STOT - single exposure	Respiratory system
Target Organ Effects	Respiratory system Eyes Skin
Aspiration Hazard	No information available.

SECTION 12. Ecological information

Ecotoxicity

Product Information

Component 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
dimethyl sulfoxide	EC50 12350 - 25500 mg/L (Skeletonema costatum) 96 h	LC50 40 g/L (Lepomis macrochirus) 96 h LC50 33 - 37 g/L (Oncorhynchus mykiss) 96 h LC50 34000 mg/L (Pimephales promelas) 96 h LC50 41.7 g/L (Cyprinus carpio) 96 h	EC50 7000 mg/L (Daphnia species) 24 h
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	-	LC50 8.9 mg/l (Pimephales promelas) 96 h	EC50 26 mg/l (Daphnia) 48 h
sodium fluoride	EC50 850 mg/L (Desmodesmus subspicatus) 72 h EC50 272 mg/L (Pseudokirchneriella subcapitata) 96 h	LC50 530 mg/L (Lepomis macrochirus) 96 h LC50 180 mg/L (Pimephales promelas) 96 h LC50 38 - 68 mg/L (Oncorhynchus mykiss) 96 h LC50 830 mg/L (Lepomis macrochirus) 96 h	EC50 98 mg/L (Daphnia magna) 48 h EC50 338 mg/L (Daphnia magna) 48 h

Persistence and degradability No information available

Bioaccumulation No information available

Chemical Name	Octanol-Water Partition Coefficient
glycerol	-1.76
dimethyl sulfoxide	-2.03

Mobility No information available

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
(R*,R*)-1,4-dimercaptobutane-2,3-diol	Listed	Not Listed	Listed	Not Listed
glycerol	Listed	Not Listed	Listed	Not Listed
dimethyl sulfoxide	Listed	Not Listed	Listed	Not Listed
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	Listed	Not Listed	Listed	Not Listed
sodium fluoride	Listed	Not Listed	Listed	Not Listed
7-Amino-4-methylcoumarin	Listed	Not Listed	Not Listed	Listed

SARA 313

Refer to kit component SDS for full SARA Section 313 reporting requirements.

Chemical Name	CAS No	SARA 313 - Threshold Values %
trisodium tetraoxovanadate	13721-39-6	1.0

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

Refer to kit component SDS for full Clean Water Act (CWA) reporting requirements.

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances	CWA - Bioaccumulative Chemicals of Concern (BCCs)
sodium fluoride	1000 lb	Not Listed	Not Listed	Listed	Not Listed

CERCLA

Refer to kit component SDS for full Comprehensive Environmental Response Compensation and Liability Act (CERCLA) reporting requirements.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
sodium fluoride	1000 lb	Not Listed

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Refer to kit component SDS for applicable State Right-To-Know (RTK) information.

Chemical Name	New Jersey	Massachusetts	Pennsylvania
glycerol	Listed	Listed	Listed
dimethyl sulfoxide	Listed	Not Listed	Not Listed
sodium fluoride	Listed	Listed	Listed
tetrasodium pyrophosphate, decahydrate	Listed	Listed	Listed
disodium hydrogenorthophosphate	Listed	Listed	Listed
trisodium tetraoxovanadate	Listed	Not Listed	Not Listed
sodium hydroxide	Listed	Listed	Listed

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