

Safety Data Sheet (SDS) According to the REACH Regulation (EC) No. 1907/2006

Issuing Date: 2018-04-26

Version: 1

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. 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)
Reach registration number	This substance/mixture contains only ingredients which have been registered, or are exempt from registration, according to Regulation (EC) No. 1907/2006.

Contains

Chemical Name	Index No.	CAS No
(R*,R*)-1,4-dimercaptobutane-2,3-diol (90 - 100%)	Not Listed	3483-12-3
glycerol (20 - 30%)	Not Listed	56-81-5
dimethyl sulfoxide (0 - 10%)	Not Listed	67-68-5
polyethylene glycol	Not Listed	9002-93-1
p-(1,1,3,3-tetramethylbutyl)phenylether (0 - 10%)		
sodium fluoride (0 - 10%)	009-004-00-7	7681-49-4
tetrasodium pyrophosphate, decahydrate (0 - 10%)	Not Listed	13472-36-1

1.2. Relevant identified uses of the substance or mixture and uses advised against

Identified uses For research use only

1.3. Details of the supplier of the safety data sheet

Importer (Applicable in EU only)	Manufacturer
Cell Signaling Technology Europe B.V. Schuttersveld 2 2316 ZA Leiden The Netherlands TEL: +31 (0)71 7200 200 FAX: +31 (0)71 891 0098	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
E-mail Address info@cellsignal.eu

1.4. Emergency telephone number

CHEMTREC 24 hours a day, 7 days a week, 365 days a year
+1 703 527 3887 (INTERNATIONAL) +1 800 424 9300 (NORTH AMERICA)

Europe 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

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 - (H302)
Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2 - (H319)
Specific target organ toxicity - single exposure (STOT SE)	Category 3 - (H335)

2.2. Label elements



Signal word

Warning

Hazard statement(s)

H302 - Harmful if swallowed

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

Precautionary statement(s)

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P264 - Wash face, hands and any exposed skin thoroughly after handling

P270 - Do not eat, drink or smoke when using this product

P271 - Use only outdoors or in a well-ventilated area

P280 - Wear protective gloves and eye/face protection

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P312 - Call a POISON CENTER or doctor if you feel unwell

P330 - Rinse mouth

P332 + P313 - If skin irritation occurs: Get medical advice/attention

P337 + P313 - If eye irritation persists: Get medical advice/attention

P362 + P364 - Take off contaminated clothing and wash it before reuse

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

P405 - Store locked up

P501 - Dispose of contents/container to an approved waste disposal plant

2.3. Other hazards

For the full text of the H-phrases & EUH-phrases mentioned in this Section, see Section 16

SECTION 3. Composition/information on ingredients

Kit Component Name Ac-DEVD-AMC Fluorescent Substrate

Chemical Name	CAS No	Weight %	EC No	Classification	REACH
---------------	--------	----------	-------	----------------	-------

5723 Caspase-3 Activity Assay Kit

				(1272/2008)	Registration Number
Caspase 3 (Apopain) Substrate 1m, fluorogenic	NOT LISTED	100	-	-	no data available

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

Chemical Name	CAS No	Weight %	EC No	Classification (1272/2008)	REACH Registration Number
dimethyl sulfoxide	67-68-5	2.5	200-664-3	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	no data available
7-Amino-4-methylcoumarin	26093-31-2	<0.01	247-454-8	-	no data available

Kit Component Name PathScan® Sandwich ELISA Lysis Buffer

Chemical Name	CAS No	Weight %	EC No	Classification (1272/2008)	REACH Registration Number
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	9002-93-1	1	618-344-0	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Aquatic Chronic 2 (H411)	no data available
sodium fluoride	7681-49-4	0.1-1	231-667-8	Acute Tox. 3 (H301) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) (EUH032)	no data available
tetrasodium pyrophosphate, decahydrate	13472-36-1	0.06	-	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335)	no data available

Kit Component Name Caspase Assay Buffer (2X)

Chemical Name	CAS No	Weight %	EC No	Classification (1272/2008)	REACH Registration Number
glycerol	56-81-5	20	200-289-5	-	no data available

Kit Component Name DTT (Dithiothreitol)

Chemical Name	CAS No	Weight %	EC No	Classification (1272/2008)	REACH Registration Number
(R*,R*)-1,4-dimercaptobutane-2,3-diol	3483-12-3	60-100	222-468-7	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335)	no data available

For the full text of the H-phrases & EUH-phrases mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	Use first aid treatment according to the nature of the injury. When symptoms persist or in all cases of doubt seek medical advice.
Inhalation	Move to fresh air.
Skin contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Ingestion	Call a physician immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Rinse mouth.

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

4.3. Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable Extinguishing Media No information available.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors.

Hazardous Combustion Products Thermal decomposition can lead to release of irritating and toxic gases and vapors.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment.

SECTION 6: Accidental release measures

6.1. 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.
For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.
Methods for cleaning up 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.

6.4. Reference to other sections

See Sections 8 & 13 for additional information.

SECTION 7: Handling and storage

7.1. 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. 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.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep in properly labeled containers.

5723 Caspase-3 Activity Assay Kit

7.3. Specific end use(s)

Use as a laboratory reagent.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Chemical Name	European Union	United Kingdom	France	Spain	Germany
glycerol		STEL 30 mg/m ³ TWA 10 mg/m ³	TWA 10 mg/m ³	TWA 10 mg/m ³	Ceiling / Peak: 400 mg/m ³ TWA: 200 mg/m ³
dimethyl sulfoxide					Skin Ceiling / Peak: 100 ppm Ceiling / Peak: 320 mg/m ³ TWA: 50 ppm TWA: 160 mg/m ³
sodium fluoride	TWA 2.5 mg/m ³	STEL 7.5 mg/m ³ TWA 2.5 mg/m ³	TWA 2 mg/m ³ TWA 2.5 mg/m ³	TWA 2.5 mg/m ³	TWA: 1 mg/m ³ Skin
tetrasodium pyrophosphate, decahydrate		STEL 15 mg/m ³ TWA 5 mg/m ³	TWA 5 mg/m ³	TWA 5 mg/m ³	
Chemical Name	Italy	Portugal	Netherlands	Finland	Denmark
glycerol		TWA 10 mg/m ³		TWA 20 mg/m ³	
dimethyl sulfoxide				TWA 50 ppm ih ^o *	TWA 50 ppm TWA 160 mg/m ³
sodium fluoride	TWA 2.5 mg/m ³	TWA 2.5 mg/m ³ C(A4)		TWA 2.5 mg/m ³	TWA 2.5 mg/m ³
tetrasodium pyrophosphate, decahydrate					TWA 5 mg/m ³
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
glycerol		SS-C** TWA 50 mg/m ³ STEL 100 mg/m ³	TWA 10 mg/m ³		TWA 10 mg/m ³ STEL 30 mg/m ³
dimethyl sulfoxide	H* TWA 50 ppm TWA 160 mg/m ³	H* TWA 50 ppm TWA 160 mg/m ³ STEL 100 ppm STEL 320 mg/m ³			
sodium fluoride			TWA 2 mg/m ³	TWA 0.5 mg/m ³ STEL 1.5 mg/m ³	TWA 2.5 mg/m ³ STEL 7.5 mg/m ³
tetrasodium pyrophosphate, decahydrate	STEL 10 mg/m ³ TWA 5 mg/m ³	TWA 5 mg/m ³		TWA 5 mg/m ³ STEL 10 mg/m ³	TWA 5 mg/m ³
Chemical Name	European Union	United Kingdom	France	Spain	Germany
sodium fluoride			3 10	2 3	Biologische Grenzwerte nach TRGS 903 sind zu beachten
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
sodium fluoride		4			

8.2. Exposure controls

Appropriate engineering controls

Showers, eyewash stations, and ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection Safety glasses with side-shields

Skin protection

Hand protection Impervious gloves.

Other Wear suitable protective clothing.

Respiratory protection In case of inadequate ventilation wear respiratory protection.

Environmental Exposure Controls

5723 Caspase-3 Activity Assay Kit

No information available.

SECTION 9. Physical and chemical properties

9.1. Information on basic 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.

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

10.1. Reactivity

No information available.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization
Hazardous reactions

Hazardous polymerization does not occur.
None under normal processing.

10.4. Conditions to avoid

Protect from light.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

5723 Caspase-3 Activity Assay Kit

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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.

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	= 1800 mg/kg (Rat)	-	-
p-(1,1,3,3-tetramethylbutyl)phenylether			
sodium fluoride	= 52 mg/kg (Rat)	= 175 mg/kg (Rat)	-

Information on likely routes of exposure

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

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

5723 Caspase-3 Activity Assay Kit

Symptoms No information available

Skin and Eye Corrosion/Irritation

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

Sensitization No information available

Mutagenic effects No information available

Carcinogenic effects No information available.

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

12.1. Toxicity

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

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

No information available.

Chemical Name	Octanol-Water Partition Coefficient
---------------	-------------------------------------

5723 Caspase-3 Activity Assay Kit

glycerol	-1.76
dimethyl sulfoxide	-2.03

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Other adverse effects

No information available

Chemical Name	EU - Endocrine Disrupters Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylet her	Group III Chemical	-	-

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.
Other information	Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

IMDG/IMO

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	None
14.6 Special precautions for user	None
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not regulated

ADR/RID

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	None
14.6 Special precautions for user	None

IATA

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	None
14.6 Special precautions for user	None

SECTION 15: Regulatory information

5723 Caspase-3 Activity Assay Kit

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Candidate List of Substances of Very High Concern for Authorization Information

Chemical Name	Candidate List of Substances of Very High Concern for Authorization Information
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether (0 - 10%)	Reason for inclusion Endocrine disrupting properties, Article 57f - environment

SEVESO Directive Information

This product does not contain substances identified in the SEVESO Directive.

International inventories

TSCA 8(b)	-
DSL/NDSL	-
EINECS/ELINCS	-
ENCS	-
IECSC	-
KECL	-
PICCS	-
AICS	-

International inventories legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out

SECTION 16: Other information

Full text of H-Statements referred to under Sections 2 and 3

H302 - Harmful if swallowed

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

Classification procedure: Expert judgment and weight of evidence determination.

Issuing Date: 2018-04-26

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.