# CellSimple<sup>™</sup> Annexin V-FITC Early Apoptosis Detection Kit

1 Kit (100 assays)



Support: +1-978-867-2388 (U.S.) www.cellsignal.com/support

> Orders: 877-616-2355 (U.S.) orders@cellsignal.com

New 02/16

## For Research Use Only. Not For Use In Diagnostic Procedures.

Products Included	Product #	Quantity
Annexin V-FITC Conjugate	4894	1 x 100 µl
10X Annexin V Binding Buffer	11732	2 x 1.5 ml
Propidium Iodide (PI) Solution (20X)	11733	1 x 1.3 ml

Description: The CellSimple<sup>™</sup> Annexin V-FITC Early Apoptosis Detection Kit is designed for use with the CellSimple<sup>™</sup> Cell Analyzer. It allows researchers to identify early apoptotic cells within a cell population. Annexin V-FITC conjugated protein binds to cell surfaces expressing phosphatidylserine, an early apotosis marker. Necrotic cells can be identified by staining with propidium iodide (PI), a non-cell-permeable DNA dye. Cells stained with both PI and annexin V-FITC are indicative of later stage apoptosis and early necrosis. This kit can be used together with the Apoptosis (Annexin V-FITC, PI) App on the CellSimple<sup>™</sup> Cell Analyzer. This kit provides enough reagent to perform 100 assays, based on a 250 µl assay volume. The CellSimple<sup>™</sup> Cell Analyzer comes complete with a pack of 25 cassettes (50 tests), a USB cord and power adapter, and user documentation.

The CellSimple  $\ensuremath{^{\rm TM}}$  Cell Analyzer is currently only available in the US.

**CellSimple™ Cell Analysis System:** The CellSimple™ Cell Analyzer is a benchtop instrument that utilizes a disposable thin-film cassette and a combination of a 488 nm laser, two photomultiplier tubes (525/45 nm and 561 nm LP filters), Coulter Principle-based cell measurements, and on-board software to provide easy-to-run applications and data analysis. Data acquisition occurs within approximately 10 seconds per test. The instrument relies on disposable cassettes for sample handling, which alleviates the need for flow cell cleaning and fluidics maintenance and the instrument is small enough to be portable between the lab bench and the hood. Applications include quantitative assessments of cell viability, apoptosis, other labeled antibody markers and single and multiplexed bead-based assays for protein and cellular analysis.

**Background:** Annexin V belongs to the annexin family of proteins consisting of over 160 members. All annexin family members share the same charactersistic of Ca<sup>2+</sup>-dependent binding to negatively charged phospholipid surfaces (1). During early apoptosis, phosphatidylserine (PS) is translocated from the cytosolic side of the plasma membrane to the cellular surface. This translocation exposes PS to the extracellular environment with the plasma membrane left intact (2). Annexin V protein demonstrates high affinity, specificity, and sensitivity for PS and can be used as a marker of early apoptosis. In order to rule out "leaky" necrotic cells, annexin V must be used in tandem with reagents that determine the integrity of the cell membrane, such as propidium iodide (2).

# 

**Storage:** Store at 4°C. *Protect from light.* Kit components are stable for 12 months.

### **Background References:**

(1) Boersma, H.H. et al. (2005) J Nucl Med 46, 2035-50.

(2) Vermes, I. et al. (1995) J Immunol Methods 184, 39-51.

### Directions for Use:

- 1. Dilute the 10X Annexin V Binding Buffer with  $d\mathrm{H_2O}$  to 1X and keep on ice.
- Collect cells of interest by centrifugation. Wash cells with ice-cold culture medium or PBS.
- Resuspend cells at 10<sup>5</sup> to 10<sup>6</sup> cells/ml with 1X Annexin V Binding Buffer. Aliquot 96 µl cell suspension in an assay tube.
- 4. Add 1 μl Annexin V-FITC Conjugate and 12.5 μl Propidium lodide (Pl) Solution (20X) to each 96 μl cell suspension. Allow cells to incubate 10 min on ice in the dark.
- 5. Dilute the cell suspension to a final volume of 250 µl/ assay with ice-cold, 1X Annexin V Binding Buffer. Analyze immediately, using the Apoptosis (Annexin V-FITC, PI) App on the CellSimple™ Cell Analyzer.

Analysis of apoptosis in Jurkat cells untreated (left panel) or treated with Staurosporine (10 µM, 3.5 hours; right panel), using the The CellSimple™ Annexin V-FITC Early Apoptosis Detection Kit and the CellSimple™ Cell Analyzer. Instrument screenshots are shown. Live cells appear in the lower left quadrant of the plots, while early and late apoptotic cells appear in the lower and upper right quadrants, respectively.

Thank you for your recent purchase. If you would like to provide a review visit cellsignal.com/comments.

## www.cellsignal.com

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Applications: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide Species Cross-Reactivity: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebratish B—bovine Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse AII—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.



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

Issuing Date: 2016-03-17	Revision Date: 2016-03-17	Version: 1		
	SECTION 1. Identification			
Product identifier				
Product number Product name	4894 Annexin V-FITC Conjugate			
Recommended use of the chemical and restrictions on use				
Identified uses Uses advised against	This product is intended for research purposes only. 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 Lam Danvers, MA 01923 United States TEL: + 1978 867 2300 FAX: + 1978 867 2300			
Website	www.cellsignal.com			
Email address Emergency telephone number	support@cellsignal.com 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

Hazard statement(s) None.

Precautionary Statement(s) None

#### Supplementary Hazard Information

None Hazards not otherwise classified (HNOC) Not applicable.

SECTION 3. Composition/information on ingredients

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4894 - Annexin V-FITC Conjugate			Revision Date: 2016-03-17
See Section 12 for additional informa	tion		
Methods and material for containm			
Methods for containment Methods for cleaning up	Prevent further leakage or spillage if Soak up with inert absorbent material		roperly labeled containers.
	SECTION 7. Handling and	l storage	
Precautions for safe handling			
	strial hygiene and safety practice. For p wash contaminated clothing before re-		tion 8. Avoid contact with
Conditions for safe storage, includ	ing any incompatibilities		
Technical measures/Storage	Keep containers tightly closed in a dr	y, cool and well-ventilated	place.
conditions Packaging material Incompatible products	No information available. None known based on information su	pplied.	
	TION 8. Exposure controls/pe	rsonal protection	
Control parameters			
	ontain any hazardous materials with oc	cupational exposure limits	established by the region
Appropriate engineering controls			
Showers, eyewash stations, and vent	ilation systems.		
Individual protection measures, su	ch as personal protective equipment	_	
	needs to be selected depending on the and the concentrations of the hazardous		controls,
Eye/face protection Skin and body protection Respiratory protection	If splashes are likely to occur, wear:: Tightly fitting safety goggles. Wear protective gloves/clothing. If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worm. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local requiations.		
Hygiene measures	Handle in accordance with good indu	strial hygiene and safety p	ractice.
S	ECTION 9. Physical and chem	ical properties	
Information on basic physical and	chemical properties		
Physical state Appearance	Liquid Transparent	Color	Clear
Odor	No information available	Odor Threshold	No information available
Property pH Melting point/freezing point Initial boiling point and boiling range	<u>Values</u> 7.5	<u>Remarks Method</u>	
Flash point Evaporation rate	No information available		

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4894 - Annexin V-FITC Conjugate

The product contains no substances which at their given concentration, are considered to be hazardous to health.

	SECTION 4. First-aid measures
Eye contact	Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while
Skin contact	rinsing. Get medical attention if irritation persists. Wash skin with soap and water.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
Ingestion	Get medical attention immediately if symptoms occur. Clean mouth with water and afterwards drink plenty of water. Do NOT induce vomiting.
-	Never give anything by mouth to an unconscious person.
Most important symptoms and effe	cts, both acute and delayed
Contains an animal derived biological.	May produce an allergic reaction in susceptible individuals.
Indication of any immediate medica	al 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.
	to protect memserves.
	SECTION 5. Fire-fighting measures
Extinguishing media	
Suitable Extinguishing Media	Use extinguishing measures that are appropriate to local circumstances and the
Unsuitable Extinguishing Media	surrounding environment. CAUTION: Use of water spray when fighting fire may be inefficient.
5 5	
Specific hazards arising from the cl No information available.	nemical
Explosion Data	
Sensitivity to Mechanical Impac	
Sensitivity to Static Discharge	None.
Protective Equipment and Precaution	ons for Firefighters
As in any fire, wear self-contained bre protective gear.	athing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full
	SECTION 6. Accidental release measures
Personal precautions, protective ec	uipment and emergency procedures
For non-emergency personnel	Avoid contact with skin, eyes and clothing. Use personal protective equipment. For personal
	protection see section 8
Other information	No information available.

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4894 - Annexin V-FITC Conjugate		Revision Date: 2016-03-1
Flammability (solid, gas)	No information available	
Upper flammability limit		
Upper flammability limit	No information available	
Lower flammability limit	No information available	
/apor pressure	No information available	
/apor density	No information available	
Relative density	No information available	
Solubility	No information available.	
Solubility in other solvents	No information available.	
Partition coefficient: n-octanol/w		
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Viscosity	No information available	
Viscosity, dynamic	No information available	
Explosive properties	No information available	
Dxidizing properties	No information available	
Other information		
Softening point	No information available	
Nolecular Weight	No information available	
/OC content	No information available	
Density	No information available.	
Bulk Density VALUE	No information available.	
	SECTION 10. Stability and reactivity	н. — — — — — — — — — — — — — — — — — — —
Reactivity		
No information available.		
Chemical stability		
Stable under recommended storag	e conditions	
Possibility of hazardous reaction		
Hazardous reactions Hazardous polymerization	None under normal processing. None under normal processing.	
Conditions to Avoid		
No information available.		
None known based on information Hazardous Decomposition Produ		
None known based on information	supplied	

None known based on information supplied. SECTION 11. Toxicological information

### Information on likely routes of exposure

#### 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 toxocological and physiological properties of this compound is

Skin corrosion/irritation Serious eye damage/eye irritation Sensitization Mutagenic effects Carcinogenicity

Reproductive toxicity STOT - single exposure STOT - repeated exposure Neurological effects Aspiration Hazard

ATEmix (oral) >5000 mg/kg ATEmix (dormal) >5000 mg/kg Delayed and immediate effects as well as chronic effects from short and long-term exposure

suspected carcinogens Not classified.

individuals

Not classified

Not classified

None known None known. No information available. No information available.

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

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

SECTION 14. Transport information

Do not empty into drains: dispose of this material and its container in a safe way

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

Persistence and degradability No information available Bioaccumulation No information available Mobility No information available

Contains an animal derived biological. May produce an allergic reaction in susceptible

Ivu cassined. 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. No component of this product present at levels greater than or equal to 0.1% are known or suspected carcinogens

No sensitizing effects known based on information supplied. Not classified.

SECTION 12. Ecological information

SECTION 13. Disposal considerations

SECTION 15. Regulatory information

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not well defined

Symptoms

Ecotoxicity

Other adverse effects No information available

Waste Disposal Methods

**Disposal considerations** 

North American Inventory Listing

Issuing Date: 2016-03-17

Product identifier

Revision Date: 2016-03-17

Revision Date: 2016-03-17

#### 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.

No No No No

SARA 311/312 Hazard Categories
Acute Health Hazard
Chronic Health Hazard
Fire Hazard
Sudden Release of Pressure Hazard
Reactive Hazard

Sudden R	a blease of Pressure Hazard
Reactive H	lazard
Clean Water A	<u>.ct</u>

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 does not contain any substances regulated under applicable state right-to-know regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
edetic acid	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

Revision Date: 2016-03-17

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

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11732 - 10X Annexin V Binding Buffer The product contains no substances which at their given concentration, are considered to be hazardous to health

Versi

SECTION 4. First-aid measures		
Eye contact	Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while rinsing. Get medical attention if irritation persists.	
Skin contact	Wash skin with soap and water.	
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing Get medical attention immediately if symptoms occur.	
Ingestion	Clean mouth with water and afterwards drink plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.	

None

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 precaution
	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

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 gea

SECTION 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

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

Environmental precautions

SECTION 3. Composition/information on ingredients

🖗 Cell Signaling ΤΕСΗΝΟΙΟ**G**Υ<sup>®</sup> Safety Data Sheet (SDS) According to the OSHA Hazard Communication Standard 29 CFR 1910.1200 Revision Date: 2016-03-17 SECTION 1. Identification

Product number Product name 11732 10X Annexin V Binding Buffer

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

Identified uses Uses advised against	This product is intended for research purposes only. 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 Lee Danvers, MA 01923 United States TEL: + 1978 867 2300 FAX: + 1978 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 Hazard statement(s) Precautionary Statement(s) Supplementary Hazard Information

None Hazards not otherwise classified (HNOC) Not applicable.

### Revision Date: 2016-03-17

11732 - 10X Annexin V Binding Buffer

See Section 12 for additional informa	ation.	
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. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.	
SECTION 7. Handling and storage		
Precautions for safe handling		
	ustrial hygiene and safety practice. For personal protection see section 8. Avoid contact with d wash contaminated clothing before re-use.	
Conditions for safe storage, inclue	ding any incompatibilities	
Technical measures/Storage	Keep containers tightly closed in a dry, cool and well-ventilated place.	
conditions Packaging material Incompatible products	No information available. None known based on information supplied.	
SE	CTION 8. Exposure controls/personal protection	
This product, as supplied, does not o specific regulatory bodies.	contain any hazardous materials with occupational exposure limits established by the region	
Appropriate engineering controls		
Showers, eyewash stations, and ven	tilation systems.	
ndividual protection measures, si	uch as personal protective equipment	
Personal protective equipment (PPE frequency/duration of work activities	) needs to be selected depending on the implemented engineering controls, and the concentrations of the hazardous substance.	
Eye/face protection Skin and body protection Respiratory protection	If aplashes are likely to occur, wear:: Tightly fitting safety goggles. Wear protective glowes/clohar If expruse limits are accessed or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worm. Positive-pressure supported air respiratory protection should be worm. Positive-pressure supported air respiratory protection should be worm. Positive-pressure support required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local requirations.	
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

Physical state Appearance	Liquid No information available	Color	No information available
Odor	No information available	Odor Threshold	No information available
Property	Values	Remarks Method	
pH	No information available		
Melting point/freezing point			
Initial boiling point and boiling			
range			
Flash point			
Evaporation rate	No information available		

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11732 - 10X Annexin V Binding Buffe	r Revision Date: 2016-03-1
not well defined.	
ATEmix (oral)	>5000 mg/kg
ATEmix (dermal) Delayed and immediate effects as	>5000 mg/kg well as chronic effects from short and long-term exposure
bolayou and miniculate encode de	
Symptoms	None.
Skin corrosion/irritation	Not classified.
Serious eye damage/eye irritation	Not classified.
Sensitization	No sensitizing effects known based on information supplied.
Mutagenic effects	Not classified.
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. No component of this product present at levels greater than or equal to 0.1% are known or suspected carcinopens.
Reproductive toxicity	Not classified.
STOT - single exposure	None known.
STOT - repeated exposure	None known.
Neurological effects	No information available.
Aspiration Hazard	No information available.

Ecotoxicity

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

Persistence and degradability	No information available.
Bioaccumulation	No information available.
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

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11732 - 10X Annexin V Binding Buffer Flammability (solid, gas) Upper flammability limit Upper flammability limit Upper flammability limit Vapor pressure Vapor density Solubility in other solvents Partition coefficient: n-octanol/water Autoignition temperature Decomposition temperature Viscosity Viscosity, dynamic Explosive properties Oxidizing properties No information available No information available No information available No information available No information available. No information available. No information available, prNo information available No information available Other information Softening point Molecular Weight VOC content

No information available No information available No information available No information available. No information available. Density Bulk Density VALUE

#### SECTION 10. Stability and reactivity

Reactivity

No information available.

Chemical stability

Stable under recommended storage conditions Possibility of hazardous reactions

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

Conditions to Avoid

No information available. 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

Inhalation Eye contact Skin contact Ingestion	No known hazard by inhalation. Avoid contact with eyes. May cause slight irritation. Avoid contact with skin. May cause slight irritation after prolonged contact with skin. Low order of toxicity based on components. Ingestion may cause gastrointestinal irritation, nausea. vormitin and diarthera.
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#### 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 toxocological and physiological properties of this compound is

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1732 - 10X Annexin V Binding Buffer Canadian Workplace Hazardous Materials Inforr	nation System (WHMIS) Classific	Revision Date: 2016-03-1
This product does not meet the criteria for classifica		
SARA 313	ation under the Hazardous Products	ACI.
Section 313 of Title III of the Superfund Amendmen chemicals which are subject to the reporting require		
SARA 311/312 Hazard Categories		
Acute Health Hazard	No	
Chronic Health Hazard Fire Hazard	No	
Sudden Release of Pressure Hazard	No	
Reactive Hazard	No	
Clean Water Act		
This product does not contain any substances regu CFR 122.42).	lated as pollutants pursuant to the C	Clean Water Act (40 CFR 122.21 and 40
CERCLA		
This material, as supplied, does not contain any sul Environmental Response Compensation and Liabili Reauthorization Act (SARA) (40 CFR 355). There r pertaining to releases of this material.	ty Act (CERCLA) (40 CFR 302) or t	he Superfund Amendments and
California Proposition 65		
This product does not contain any Proposition 65 cl	hemicals.	
J.S. State Right-to-Know Regulations		
This product does not contain any substances regu	lated under applicable state right-to	-know regulations
J.S. FIFRA Label Information		
This product does not contain any substances regu	lated as pesticides.	
US Commerce Department - Export Administrat	ion Regulations Information	
This product does not contain any substances regu	lated under the Chemical Weapons	Convention (CWC).
U.S. Drug Enforcement Administration Informat	ion	
This product does not contain any substances regu	lated under the DEA.	
	TION 16. Other information	

Revision Date: 2016-03-17 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



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

Issuing Date: 2016-03-17	Revision Date: 2016-03-17	Version:
	SECTION 1. Identification	
Product identifier		
Product number Product name	11733 Propidium lodide (PI) Solution	
Recommended use of the chem	ical and restrictions on use	
Identified uses Uses advised against	This product is intended for research purposes only. This product is not intended for use in diagnostic procedures or therapeutics. This oroduct is not intended for use in humans or animals.	
Manufacturer, importer, supplie	<u>r</u>	
Manufacturer address	Cell Signaling Technology, Inc. 3 Track Lane Darwers, MA 01923 United States TEL: +1 978 867 2300 FAX: +1 978 867 2400	
Website	www.cellsignal.com	
Email address Emergency telephone number	support@cellsignal.com 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

Hazard statement(s) None.

## Precautionary Statement(s) None

Supplementary Hazard Information

# None Hazards not otherwise classified (HNOC) Not applicable.

SECTION 3. Composition/information on ingredients

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11733 - Propidium Iodide (PI) Solution			Revision Date: 2016-03-17
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 s Soak up with inert absorbent material		roperly labeled containers.
	SECTION 7. Handling and	storage	
Precautions for safe handling			
	strial hygiene and safety practice. For p wash contaminated clothing before re-u		tion 8. Avoid contact with
Conditions for safe storage, includ	ing any incompatibilities		
Technical measures/Storage	Keep containers tightly closed in a dry	, cool and well-ventilated	place.
conditions Packaging material Incompatible products	No information available. None known based on information su	pplied.	
SEC	TION 8. Exposure controls/pe	rsonal protection	
Control parameters			
This product, as supplied, does not co specific regulatory bodies.	ontain any hazardous materials with occ	upational exposure limits (	established by the region
Appropriate engineering controls Showers, eyewash stations, and vent	ilation 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 advities and the concentrations of the hazardous substance.			
Eye/face protection Skin and body protection Respiratory protection Hygiene measures	If splashes are likely to occur, wear:: Wear protective gloves/clothing. If exposure limits are exceeded or irrit respiratory protection should be worm required for high airborne contaminan provided in accordance with current Ic Handle in accordance with good indu	ation is experienced, NIO Positive-pressure supplie t concentrations. Respiration	SH/MSHA approved ed air respirators may be tory protection must be
	•		lactice.
S	ECTION 9. Physical and chem	ical properties	
Information on basic physical and chemical properties			
Physical state Appearance Odor	Liquid Transparent No information available	Color Odor Threshold	light pink No information available
Property pH Melting point/freezing point Initial boiling point and boiling range Flash point Evaporation rate	Values 7.5 No information available	Remarks Method	

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11733 - Propidium Iodide (PI) Solution

The product contains no substances which at their given concentration, are considered to be hazardous to health.

	SECTION 4. First-aid measures
Eye contact	Rinse thoroughly with plenty of water, also under the eyelids. Keep eye wide open while
Skin contact	rinsing. Get medical attention if irritation persists. Wash skin with soap and water.
nhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention immediately if symptoms occur.
ngestion	Clean mouth with water and afterwards drink plenty of water. Do NOT induce vomiting. Never give anything by mouth to an unconscious person.
Nost important symptoms and effe	cts, both acute and delayed
None.	
ndication of any immediate medica	al attention and special treatment needed
Freat symptomatically.	
Advice for emergency responders	
General advice Protection of first-aiders	For further assistance, contact your local Poison Control Center. 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
Unsuitable Extinguishing Media	surrounding environment. a CAUTION: Use of water spray when fighting fire may be inefficient.
Specific hazards arising from the cl No information available.	hemical
Explosion Data	
Sensitivity to Mechanical Impac Sensitivity to Static Discharge	xt None. None.
	ons for Firefighters
	ons for Firefighters_
As in any fire, wear self-contained bre	ons for Firefighters. athing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full
As in any fire, wear self-contained bre	
As in any fire, wear self-contained bre protective gear.	athing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full
As in any fire, wear self-contained bre protective gear.	athing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full SECTION 6. Accidental release measures auipment and emergency procedures Avoid contact with skin, eyes and clothing. Use personal protective equipment. For person
As in any fire, wear self-contained bre protective gear. Personal precautions, protective ec	athing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full SECTION 6. Accidental release measures uppment and emergency procedures
As in any fire, wear self-contained bre protective gear. Personal precautions, protective ec For non-emergency personnel Other information	athing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full SECTION 6. Accidental release measures uppment and emergency procedures Avoid contact with skin, eyes and clothing. Use personal protective equipment. For person protection see section 8.
As in any fire, wear self-contained bre protective gear. Personal precautions, protective ec For non-emergency personnel Other information	athing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full SECTION 6. Accidental release measures uppment and emergency procedures Avoid contact with skin, eyes and clothing. Use personal protective equipment. For person protection see section 8.
As in any fire, wear self-contained bre protective gear. Personal precautions, protective ec For non-emergency personnel Other information	athing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full SECTION 6. Accidental release measures <u>ulpment and emergency procedures</u> Avoid contact with skin, eyes and clothing. Use personal protective equipment. For person protection see section 8. No information available.
As in any fire, wear self-contained bre protective gear. Personal precautions, protective ec For non-emergency personnel Other information	athing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full SECTION 6. Accidental release measures uppment and emergency procedures Avoid contact with skin, eyes and clothing. Use personal protective equipment. For person protection see section 8.
As in any fire, wear self-contained bre protective gear. Personal precautions, protective ec For non-emergency personnel Other information	athing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full SECTION 6. Accidental release measures <u>ulpment and emergency procedures</u> Avoid contact with skin, eyes and clothing. Use personal protective equipment. For person protection see section 8. No information available.
As in any fire, wear self-contained bre protective gear. Personal precautions, protective ec For non-emergency personnel Other information	athing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full SECTION 6. Accidental release measures <u>ulpment and emergency procedures</u> Avoid contact with skin, eyes and clothing. Use personal protective equipment. For person protection see section 8. No information available.
As in any fire, wear self-contained bre protective gear. Personal precautions, protective ec For non-emergency personnel Other information	athing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full SECTION 6. Accidental release measures <u>ulpment and emergency procedures</u> Avoid contact with skin, eyes and clothing. Use personal protective equipment. For person protection see section 8. No information available.
As in any fire, wear self-contained bre protective gear. Personal precautions, protective ec For non-emergency personnel Other information Environmental precautions	athing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full SECTION 6. Accidental release measures <u>ulpment and emergency procedures</u> Avoid contact with skin, eyes and clothing. Use personal protective equipment. For person protection see section 8. No information available.
As in any fire, wear self-contained bre protective gear.  Personal precautions, protective ec For non-emergency personnel Other information Environmental precautions  11733 - Propidium Iodide (PI) Solution Flammability (solid, gas)	athing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full SECTION 6. Accidental release measures uppertund and emergency procedures Avoid contact with skin, eyes and clothing. Use personal protective equipment. For person protection are section 8. No information available. Page 2/6
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As in any fire, wear self-contained bre protective gear.  Personal precautions, protective ec For non-emergency personnel Other information Environmental precautions  Information Information Information Information Upper flammability limit Lower flammability limit Lower flammability limit Lower flammability limit	athing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full  SECTION 6. Accidental release measures  upper and emergency procedures.  Avoid contact with skin, eyes and clothing. Use personal protective equipment. For person protection see section 8. No information available.  Page 2 / 6  Revision Date: 2016-03-  No information available No informatio
As in any fire, wear self-contained bre protective gear.  Personal precautions, protective ec For non-emergency personnel Other information Environmental precautions Information Informat	athing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full  SECTION 6. Accidental release measures  uppment and emergency procedures.  Avoid contact with skin, eyes and clothing. Use personal protective equipment. For person protection see section 8. No information available.  No information available
As in any fire, wear self-contained bre protective gear.	athing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full  SECTION 6. Accidental release measures  utipment and emergency procedures.  Avoid contact with skin, eyes and clothing. Use personal protective equipment. For person protection see section 8.  Page 2 / 6  Revision Date: 2016-03.  No information available No informat
As in any fire, wear self-contained bre protective gear.  Personal precautions, protective ec For non-emergency personnel Other Information Environmental precautions  Inframability (solid, ges) Upper flammability limit Upper flammability limit Upper flammability limit Vapor density Solubility Relative density Solubility in other solvents Partition coefficient n-octanol/wata	atting apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full  SECTION 6. Accidental release measures  upper and emergency procedures.  Avoid contact with skin, eyes and clothing. Use personal protective equipment. For person protection see section 8.  Page 2 / 6  Revision Date: 2016-03-  No information available No information
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As in any fire, wear self-contained bre protective gear.  Personal precautions, protective ec For non-emergency personnel Other information Environmental precautions  11733 - Propidium Iodide (PI) Solution Flammability (mit Upper flammability (mit)	Avid contact with skin, eyes and clothing. Use personal protective equipment. For person protection see section 8. No information available No information available

Viscosity Viscosity, dynamic Explosive properties Oxidizing properties Other information Softening point Molecular Weight VOC content Density Bulk Density VALUE No information available No information available No information available No information available. No information available.

### 

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

No information available. 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

SECTION 10. Stability and reactivity

#### A1-

Inhalation Eve contact	No known hazard by inhalation. Avoid contact with eyes. May cause slight irritation.
Skin contact	Avoid contact with skin. May cause slight irritation after prolonged contact with skin.
Ingestion	Low order of toxicity based on components. 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 toxocological and physiological properties of this compound is

not well defined

ATEmix (oral) ATEmix (dermal)	>5000 mg/kg >5000 mg/kg	
Delayed and immediate effects as well as chronic effects from short and long-term exposure		
Symptoms	None.	
Skin corrosion/irritation	Not classified.	
Serious eye damage/eye irritation	Not classified.	
Sensitization	No sensitizing effects known based on information supplied.	
Mutagenic effects	Not classified.	
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. No component of this product present at levels greater than or equal to 0.1% are known or suspected carcinogens.	
Reproductive toxicity	Not classified.	
STOT - single exposure	None known.	
STOT - repeated exposure	None known.	
Neurological effects	No information available.	
Aspiration Hazard	No information available.	
	SECTION 12. Ecological information	

Ecotoxicity

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

Persistence and degradability	No information available
Bioaccumulation	No information available
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.

Γ 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

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11733 - Propidium Iodide (PI) Solution

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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.

No No No 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

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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 does not contain any substances regulated under applicable state right-to-know regulations

### 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

Revision Date: 2016-03-17 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

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