



Cell Signaling

TECHNOLOGY®

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

Issuing Date: 2016-12-15

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Version: 2

SECTION 1. Identification

Product identifier

Product number	25576
Product name	CellSimple™ Apoptosis Multiplex Bead Assay Kit
Kit Component	10X Apoptosis Signaling 4-plex bead cocktail Array Diluent Buffer 20X Array Wash Buffer 10X Apoptosis Signaling 4-Plex Detection Antibody Cocktail 10X Streptavidin-PE Secondary PathScan® Sandwich Elisa Lysis Buffer (1X)

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
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.

This substance/mixture is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Serious eye damage/eye irritation	Category 2A
Skin sensitization	Category 1

GHS Label elements, including precautionary statements

**Signal Word**

Warning

Hazard statement(s)

Causes serious eye irritation. May cause an allergic skin reaction.

Precautionary Statement(s)

Wash face, hands and any exposed skin thoroughly after handling. Avoid breathing dust/fume/gas/mist/vapors/spray. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

Specific treatment (see supplemental first aid instructions on this label).

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing 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.

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

Supplementary Hazard Information

May produce an allergic reaction

Hazards not otherwise classified (HNOC)

Not applicable.

SECTION 3. Composition/information on ingredients

Kit Component Name 10X Apoptosis Signaling 4-plex bead cocktail

Chemical Name	CAS No	Weight %	Hazardous
sodium azide	26628-22-8	<0.1	Yes

Kit Component Name Array Diluent Buffer

Chemical Name	CAS No	Weight %	Hazardous
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)	55965-84-9	0.0015 - 0.05	Yes

Kit Component Name 10X Apoptosis Signaling 4-Plex Detection Antibody Cocktail

Chemical Name	CAS No	Weight %	Hazardous
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)	55965-84-9	0.0015 - 0.05	Yes

Kit Component Name 10X Streptavidin-PE Secondary

Chemical Name	CAS No	Weight %	Hazardous
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one	55965-84-9	0.0015 - 0.05	Yes

[EC no. 220-239-6] (3:1)			
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Kit Component Name PathScan® Sandwich Elisa Lysis Buffer (1X)

Chemical Name	CAS No	Weight %	Hazardous
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	9002-93-1	1 - <3	Yes
tetrasodium pyrophosphate, decahydrate	13472-36-1	0.1 - <1	Yes
sodium fluoride	7681-49-4	0.1 - <1	Yes

Kit Component Name 20X Array Wash Buffer

This product does not contain substances at concentrations requiring disclosure under 29 CFR 1910.1200 (OSHA Hazard Communication Standard).

SECTION 4. First-aid measures

Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Get medical attention if irritation persists.
Skin contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. May cause an allergic skin reaction. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
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.

Most important symptoms and effects, both acute and delayed

Contains kit components which may cause the following effects, refer to individual component SDSs for full information on symptoms:

Liquid, aerosols and vapors of this product are irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation and/or a feeling like that of fine dust in the eyes. May cause an allergic skin reaction including itching, redness, and rash. Contains an animal derived biological. May produce an allergic reaction in susceptible individuals. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing.

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

None known.

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 Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Do not get in eyes, on skin, or on clothing. Use personal protective equipment. For personal protection see section 8.

Other information No information available.

Environmental precautions

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

Methods and material for containment and cleaning up

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

Methods for cleaning up Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

SECTION 7. Handling and storage

Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. Wear personal protective equipment. Refer to Section 8. Prevent contact with skin, eyes and clothing. Remove and wash contaminated clothing before re-use. Do not eat, drink or smoke when using this product.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions Keep containers tightly closed in a dry, cool and well-ventilated place.

Packaging material No information available.

Incompatible products Strong oxidizing agents. Strong acids. Strong bases.

SECTION 8. Exposure controls/personal protection

Control parameters

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH REL
tetrasodium pyrophosphate, decahydrate	-	-	TWA : 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
sodium azide	Ceiling: 0.29 mg/m ³ Ceiling: 0.11 ppm	-	Ceiling: 0.1 ppm Ceiling: 0.3 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	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. Do not eat, drink or smoke when using this product. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. 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	10X Apoptosis Signaling 4-plex bead cocktail
Physical state	Liquid
Appearance	Transparent
Color	Clear
pH VALUE	7.0
Kit Component	Array Diluent Buffer
Physical state	Liquid
Kit Component	10X Apoptosis Signaling 4-Plex Detection Antibody Cocktail
Physical state	Liquid
Appearance	Transparent
Color	Clear
pH VALUE	7.0
Kit Component	10X Streptavidin-PE Secondary
Physical state	Liquid
Appearance	Transparent
pH VALUE	7.0
Kit Component	PathScan® Sandwich Elisa Lysis Buffer (1X)
Physical state	Liquid
Color	Clear
pH VALUE	7.5
Kit Component	20X Array Wash Buffer
Physical state	Liquid
Appearance	Clear
Color	Colorless
pH VALUE	7.4

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

Extremes of temperature and direct sunlight. Over a period of time, sodium azide may react with copper, lead, brass, or solder in plumbing systems to form an accumulation of the HIGHLY EXPLOSIVE compounds of lead azide & copper azide.

Incompatible Materials

Strong oxidizing agents. Strong acids. Strong bases.

Hazardous Decomposition Products

None known based on information supplied.

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. Refer to kit component SDS for full toxicological information.

Inhalation Avoid breathing vapors or mists. Contains an animal derived biological. May produce an allergic reaction in susceptible individuals.

Eye contact Avoid contact with eyes.

Kit Component Eye contact	PathScan® Sandwich Elisa Lysis Buffer (1X) Expected to be an irritant based on components
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Skin contact Avoid contact with skin.

Kit Component Skin contact	Array Diluent Buffer Repeated or prolonged skin contact may cause allergic reactions with susceptible persons
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Kit Component Skin contact	10X Apoptosis Signaling 4-Plex Detection Antibody Cocktail Repeated or prolonged skin contact may cause allergic reactions with susceptible persons
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Kit Component Skin contact	10X Streptavidin-PE Secondary Repeated or prolonged skin contact may cause allergic reactions with susceptible persons
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Ingestion Contains an animal derived biological. May produce an allergic reaction in susceptible individuals. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Information on toxicological effects**Component Information**

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	1,800 mg/kg (Rat)	8,000 mg/kg (Rabbit)	-

tetrasodium pyrophosphate, decahydrate	-	-	-
sodium fluoride	= 52 mg/kg (Rat)	= 175 mg/kg (Rat)	-
sodium azide	= 27 mg/kg (Rat)	= 20 mg/kg (Rabbit) = 50 mg/kg (Rat)	-
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1)	= 53 mg/kg (Rat) = 481 mg/kg (Rat)	-	= 1.23 mg/L (Rat) 4 h

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

Symptoms

Contains kit components which may cause the following effects, refer to individual component SDSs for full information on symptoms:

Liquid, aerosols and vapors of this product are irritating and can cause pain, tearing, reddening and swelling accompanied by a stinging sensation and/or a feeling like that of fine dust in the eyes. May cause an allergic skin reaction including itching, redness, and rash. Contains an animal derived biological. May produce an allergic reaction in susceptible individuals. Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain, or flushing.

Skin and Eye Corrosion/Irritation

Kit Component: PathScan® Sandwich Elisa Lysis Buffer (1X)
 Serious eye damage/eye irritation: Causes serious eye irritation

Sensitization

Kit Component: Array Diluent Buffer
 Skin Sensitization: Contains a known skin sensitizer at low concentrations. May cause an allergic skin reaction.

Kit Component: 10X Apoptosis Signaling 4-Plex Detection Antibody Cocktail
 Skin Sensitization: Contains a known skin sensitizer at low concentrations. May cause an allergic skin reaction.

Kit Component: 10X Streptavidin-PE Secondary
 Skin Sensitization: Contains a known skin sensitizer at low concentrations. May cause an allergic skin reaction.

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)

No information available.

Aspiration Hazard

No information available.

SECTION 12. Ecological information

Ecotoxicity

Product Information Ecotoxicity

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

information.

Component Information

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
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
sodium azide	EC50 0.35 mg/L (Pseudokirchneriella subcapitata) 96 h	LC50 0.8 mg/L (Oncorhynchus mykiss) 96 h LC50 5.46 mg/L (Pimephales promelas) 96 h LC50 0.7 mg/L (Lepomis macrochirus) 96 h	LC100 1 mg/L (Orconectes rusticus) 96 h
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)	EC50 0.11 - 0.16 mg/L (Pseudokirchneriella subcapitata) 72 h EC50 0.31 mg/L (Anabaena flos-aquae) 120 h EC50 0.03 - 0.13 mg/L (Pseudokirchneriella subcapitata) 96 h	LC50 1.6 mg/L (Oncorhynchus mykiss) 96 h	EC50 4.71 mg/L (Daphnia magna) 48 h EC50 0.71 - 0.99 mg/L (Daphnia magna) 48 h EC50 0.12 - 0.3 mg/L (Daphnia magna) 48 h

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

Chemical Name	TSCA 8(b)	TSCA 12(b)	DSL	NDSL
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylether	Listed	Not Listed	Listed	Not Listed
sodium fluoride	Listed	Not Listed	Listed	Not Listed
sodium azide	Listed	Not Listed	Listed	Not Listed

reaction mass of: 5-chloro-2-methyl-4-isothiazolin- 3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)	Not Listed	Section 5: 1 %	Listed	Not Listed
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SARA 313

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

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
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
sodium azide	1000 lb	1000 lb

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
disodium hydrogenorthophosphate	Listed	Listed	Listed
tetrasodium pyrophosphate, decahydrate	Listed	Listed	Listed
disodium hydrogenorthophosphate	Listed	Listed	Listed
sodium fluoride	Listed	Listed	Listed
sodium azide	Listed	Listed	Listed
trisodium tetraoxovanadate	Listed	Not Listed	Not Listed

SECTION 16. Other information

Revision Date: 2016-12-15

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