

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

Issuing Date: 2018-01-19 **Revision Date:** 2024-05-13 **Version:** 2

SECTION 1. Identification

Product identifier

Product No 14507

Product name PathScan® Total Ki-67 Sandwich ELISA Kit

Kit Component 65195: Ki-67 Rabbit mAb Coated Microwells

14493: Ki-67 Mouse Detection mAb

13304: Anti-mouse IgG, HRP-linked Antibody (ELISA Formulated)

13339: Detection Antibody Diluent

13515: HRP Diluent

11083: ELISA Sample Diluent

7002: STOP Solution 7004: TMB Substrate

9801: ELISA Wash Buffer (20X) 9803: Cell Lysis Buffer (10X)

Hazardous Components 13515: HRP Diluent 7002: STOP Solution

9801: ELISA Wash Buffer (20X) 9803: Cell Lysis Buffer (10X)

UN number UN3265

Recommended use of the chemical and restrictions on use

Identified usesThis product is intended for research purposes only.

Manufacturer, importer, supplier

Manufacturer address Cell Signaling Technology, Inc.

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Email address support@cellsignal.com

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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.

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1

GHS Label elements, including precautionary statements



Signal Word Danger

Hazard statement(s)

Causes severe skin burns and eye damage.

May cause an allergic skin reaction.

Precautionary Statement(s)

Do not breathe dust/fume/gas/mist/vapors/spray.

Wash face, hands and any exposed skin thoroughly after handling.

Wear protective gloves/protective clothing/eye protection/face protection.

Contaminated work clothing should not be allowed out of the workplace.

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

Wash contaminated clothing before reuse

If skin irritation or rash occurs: Get medical advice/attention

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

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

Immediately call a POISON CENTER or doctor/physician

Store locked up.

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

Supplementary Hazard Information

May produce an allergic reaction.

Hazards not otherwise classified (HNOC)

Harmful to aquatic life with long lasting effects.

SECTION 3. Composition/information on ingredients

Kit Component 7002: STOP Solution

DANGER: Causes severe skin burns and eye damage. May cause an allergic skin reaction.

Chemical name	CAS No	Weight-%
maleic acid	110-16-7	3-7

Kit Component 9801: ELISA Wash Buffer (20X)

WARNING: May cause an allergic skin reaction.

Chemical name	CAS No	Weight-%

reaction mass of:	55965-84-9	0.005-0.025
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)		

Kit Component

11083: ELISA Sample Diluent

Chemical name	CAS No	Weight-%
sodium azide	26628-22-8	<0.1

Kit Component

9803: Cell Lysis Buffer (10X)

DANGER: Causes serious eye damage. Causes skin irritation. Harmful to aquatic life with long lasting effects.

Chemical name	CAS No	Weight-%
polyethylene glycol	9002-93-1	10
p-(1,1,3,3-tetramethylbutyl)phenylether		
trometamol	77-86-1	1.79
tetrasodium pyrophosphate, decahydrate	13472-36-1	0.1-1

Kit Component

13339: Detection Antibody Diluent

Chemical name	CAS No	Weight-%
trometamol	77-86-1	0.5
sodium azide	26628-22-8	<0.1

Kit Component

13515: HRP Diluent

WARNING: May cause an allergic skin reaction

Chemical name	CAS No	Weight-%
reaction mass of:	55965-84-9	0.005-0.025
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)		
trometamol	77-86-1	0.5

Kit Component

65195: Ki-67 Rabbit mAb Coated Microwells

14493: Ki-67 Mouse Detection mAb

13304: Anti-mouse IgG, HRP-linked Antibody (ELISA Formulated)

7004: TMB Substrate

These products do not contain substances at concentrations requiring disclosure under 29 CFR 1910.1200 (OSHA Hazard Communication Standard).

SECTION 4. First-aid measures

Eye contact

Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin contact

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Immediate medical attention is required.

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

Inhalation

Ingestion

Get medical attention immediately if symptoms occur. If breathing is difficult, give oxygen. Get medical attention. 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. Corrosive. Significant esophageal or gastrointestinal tract irritation or burns may occur following ingestion. 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. Respiratory tract irritation, if severe, can progress to pulmonary edema which may be delayed in onset up to 24 to 72 hours after exposure in some cases. 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

Probable mucosal damage may contraindicate the use of gastric lavage.

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 surrounding environment

Specific hazards arising from the chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating gases and vapors. In the event of fire and/or explosion do not breathe fumes.

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. Avoid

contact with skin, eyes and clothing. Use personal protective equipment. Ensure adequate

ventilation

Other information Refer to protective measures listed in Sections 7 and 8.

Environmental precautions

Do not allow material to contaminate ground water system. Should not be released into the environment. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so.

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.

Take up mechanically, placing in appropriate containers for disposal. Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material. Clean contaminated surface thoroughly.

SECTION 7. Handling and storage

Precautions for safe handling

Avoid contact with skin, eyes and clothing. Wear personal protective equipment. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Handle product only in closed system or provide appropriate exhaust ventilation at machinery.

Conditions for safe storage, including any incompatibilities

Technical measures/Storage

Keep away from direct sunlight. Keep containers tightly closed in a dry, cool and

conditions

well-ventilated place. No information available.

Packaging material Incompatible products

Incompatible with strong acids and bases, Incompatible with oxidizing agents

SECTION 8. Exposure controls/personal protection

Control parameters

Occupational exposure limit values				
Chemical name ACGIH TLV OSHA PEL NIOSH REL				
tetrasodium pyrophosphate, decahydrate	-	-	TWA: 5 mg/m ³	
sodium azide	Ceiling: 0.29 mg/m ³	-	Ceiling: 0.1 ppm	
	Ceiling: 0.11 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 Skin and body protection Respiratory protection Hygiene measures

Tightly fitting safety goggles. Face-shield.

Wear protective gloves/clothing.

In case of inadequate ventilation wear respiratory protection.

Remove and wash contaminated clothing before re-use. Contaminated work clothing should not be allowed out of the workplace. Provide regular cleaning of equipment, work area and clothing. Keep away from food, drink and animal feeding stuffs. Avoid contact with skin,

eyes and clothing. Wear suitable gloves and eye/face protection.

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 7004: TMB Substrate

Physical state Liquid
Appearance Clear
Color Light yellow
pH 3.3-3.8 (20 °C)

Kit Component 7002: STOP Solution

Physical state Liquid
Appearance Clear
Color Colorless
pH 1.2 (20 °C)

Kit Component 9801: ELISA Wash Buffer (20X)

Physical state Liquid
Appearance Clear
Color Colorless
pH 6.4 (20 °C)

Kit Component 11083: ELISA Sample Diluent

Physical state Liquid
Appearance Clear
Color Blue
pH 7.1 (20 °C)

Kit Component 9803: Cell Lysis Buffer (10X)

Physical state Liquid
Appearance Clear
Color Colorless
pH 7.5 (20 °C)

Kit Component 14493: Ki-67 Mouse Detection mAb

Physical state Solid

Appearance Powder, Lyophilized

Color Green

Kit Component 13339: Detection Antibody Diluent

Physical state Liquid
Appearance Clear
Color Green
pH 7.4 (20 °C)

Kit Component 13304: Anti-mouse IgG, HRP-linked Antibody (ELISA Formulated)

Physical state Solid

Appearance Powder, Lyophilized

Color Red

Kit Component 13515: HRP Diluent

Physical state Liquid
Appearance Clear
Color Red
pH 7.4 (20 °C)

Kit Component 65195: Ki-67 Rabbit mAb Coated Microwells

Physical state Solid

Appearance Microwell Plate

SECTION 10. Stability and reactivity

Reactivity

No information available.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

Hazardous reactionsHazardous polymerization
None under normal processing.
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

Incompatible with strong acids and bases, Incompatible with oxidizing agents

Hazardous Decomposition Products

Thermal decomposition can lead to release of toxic/corrosive gases and vapors

SECTION 11. Toxicological information

Information on likely routes of exposure

Product Information

Refer to kit component SDS for full toxicological 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 7002: STOP Solution

Inhalation Aerosol expected to be irritating based on components

Kit Component 9801: ELISA Wash Buffer (20X)

Inhalation Avoid breathing vapors or mists May cause irritation of respiratory tract

Kit Component 14493: Ki-67 Mouse Detection mAb Inhalation May cause allergic respiratory reaction

Kit Component 13304: Anti-mouse IgG, HRP-linked Antibody (ELISA Formulated)

Inhalation May cause allergic respiratory reaction

Kit Component 13515: HRP Diluent

Inhalation Avoid breathing vapors or mists May cause irritation of respiratory tract

Eye contact

Kit Component 7002: STOP Solution

Eye contact May cause irreversible damage to eyes

Kit Component 9801: ELISA Wash Buffer (20X)

Eye contact Expected to be an irritant based on components

Kit Component 9803: Cell Lysis Buffer (10X)

Eye contact Expected to be an irritant based on components

Kit Component 13515: HRP Diluent

Eye contact Contact with eyes may cause irritation

Skin contact

Kit Component 7002: STOP Solution

Skin contact Corrosive to skin Prolonged contact with skin is harmful

Kit Component 9801: ELISA Wash Buffer (20X)

Skin contact Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.

Expected to be an irritant based on components

Kit Component 14493: Ki-67 Mouse Detection mAb

Skin contact Repeated or prolonged skin contact may cause allergic reactions with susceptible persons

Kit Component 13304: Anti-mouse IgG, HRP-linked Antibody (ELISA Formulated)

Skin contact Repeated or prolonged skin contact may cause allergic reactions with susceptible persons

Kit Component 13515: HRP Diluent

Skin contact Repeated or prolonged skin contact may cause allergic reactions with susceptible persons

Ingestion

Kit Component 7002: STOP Solution

Kit Component 9801: ELISA Wash Buffer (20X)

Ingestion 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	= 1800 mg/kg (Rat)	-	-
p-(1,1,3,3-tetramethylbutyl)phenylet			
her			
maleic acid	708 mg/kg (Rat)	1,560 mg/kg (Rabbit)	> 0.72 mg/L (Rat) 1h
trometamol	5900 mg/kg (Rat)	-	-
sodium azide	= 27 mg/kg (Rat)	= 20 mg/kg (Rabbit) = 50 mg/kg (-
		Rat)	
reaction mass of:	= 53 mg/kg (Rat) = 481 mg/kg	= 200 mg/kg (Rabbit)	= 1.23 mg/L (Rat) 4 h = 0.11 mg/L
5-chloro-2-methyl-4-isothiazolin-3-o	(Rat) 232 - 249 mg/kg (Rat) = 120		(Rat) 4 h
ne [EC no. 247-500-7] and	mg/kg (Rat)		
2-methyl-2H -isothiazol-3-one [EC			
no. 220-239-6] (3:1)			

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. Corrosive. Significant esophageal or gastrointestinal tract irritation or burns may occur following ingestion. 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. Respiratory tract irritation, if severe, can progress to pulmonary edema which may be delayed in onset up to 24 to 72 hours after exposure in some cases. 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

Serious eye damage/eye irritation Risk of serious damage to eyes

Skin corrosion/irritation

Kit Component

Serious eye damage/eye irritation Causes serious eye irritation Skin corrosion/irritation

Kit Component

Serious eye damage/eye irritation Irritating to eyes

7002: STOP Solution

Causes burns

9801: ELISA Wash Buffer (20X)

9803: Cell Lysis Buffer (10X)

Sensitization

Kit Component Skin Sensitization

Kit Component

Skin Sensitization

Kit Component Respiratory Sensitization

Skin Sensitization

Kit Component Respiratory Sensitization

Skin Sensitization

Kit Component Skin Sensitization

Causes skin irritation

7002: STOP Solution

May cause skin sensitization

9801: ELISA Wash Buffer (20X)

Product is or contains a sensitizer. May cause an allergic skin reaction

14493: Ki-67 Mouse Detection mAb

May cause allergy or asthma symptoms or breathing difficulties if inhaled

May cause skin sensitization

13304: Anti-mouse IgG, HRP-linked Antibody (ELISA Formulated) May cause allergy or asthma symptoms or breathing difficulties if inhaled

May cause skin sensitization

13515: HRP Diluent

Product is or contains a sensitizer. May cause an allergic skin reaction

Mutagenic effects

Carcinogenicity

Kit Component Mutagenic effects 7002: STOP Solution

Not mutagenic in AMES Test

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 information available. Reproductive toxicity

Systemic Target Organ Toxicity

(STOT)

Kit Component 7002: STOP Solution STOT - single exposure Respiratory system

Aspiration Hazard No information available.

SECTION 12. Ecological information

Ecotoxicity

Product Information

Kit Component 7002: STOP SolutionEcotoxicity

Toxic to aquatic life

Kit Component 9801: ELISA Wash Buffer (20X)

Ecotoxicity Harmful to aquatic life with long lasting effects

Component Information

Chemical name	Toxicity to algae	Toxicity to fish	Toxicity to daphnia and other aquatic invertebrates
polyethylene glycol p-(1,1,3,3-tetramethylbutyl)phenylet her	-	LC50 8.9 mg/l (Pimephales promelas) 96 h	EC50 26 mg/l (Daphnia) 48 h
maleic acid	-	LC50 5 mg/L (Pimephales promelas) 96 h	EC50 250 - 400 mg/L (Daphnia magna) 48 h
trometamol	-	-	NOEC >100 mg/L (Selenastrum capricornutum) 96 h
sodium azide	EC50 0.35 mg/L (Pseudokirchneriella subcapitata) 96 h		LC100 1 mg/L (Orconectes rusticus) 96 h
reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-o ne [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	, ,	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

Kit Component 7002: STOP Solution
Persistence and degradability Product is biodegradable

Kit Component 9801: ELISA Wash Buffer (20X)

Persistence and degradability Not readily biodegradable

Bioaccumulation

Kit ComponentBioaccumulation

7002: STOP Solution
Not likely to bioaccumulate

Kit ComponentBioaccumulation

9801: ELISA Wash Buffer (20X)
Not likely to bioaccumulate

Chemical name	Octanol-Water Partition Coefficient
maleic acid	0.32

Mobility

Kit Component 7002: STOP Solution

Mobility Will likely be mobile in the environment due to its water solubility

Kit Component 9801: ELISA Wash Buffer (20X)

Mobility Will likely be mobile in the environment due to its water solubility

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. Dispose of wastes in an approved waste disposal facility.

SECTION 14. Transport information

This material is subject to regulation as a hazardous material for shipping:

DOT

UN number UN3265

UN proper shipping nameCorrosive liquid, acidic, organic, n.o.s. (maleic acid)

Transport hazard class(es) 8
Packing group 8

<u>IATA</u>

UN number UN3265

UN proper shipping name Corrosive liquid, acidic, organic, n.o.s. (maleic acid)

Transport hazard class(es) 8
Packing group III
Excepted Quantity E1

SECTION 15. Regulatory information

North American Inventory Listing

Chemical name	TSCA 8(b)	TSCA 12(b)	DSL	NDSL
polyethylene glycol	Listed	Not Listed	Listed	Not Listed
p-(1,1,3,3-tetramethylbutyl)phen				
ylether				
maleic acid	Listed	Not Listed	Listed	Not Listed
trometamol	Listed	Not Listed	Listed	Not Listed
sodium azide	Listed	Not Listed	Listed	Not Listed

reaction mass of:	Not Listed	Section 5: 1 %	Listed	Not Listed
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)				

SARA 313

Chemical name	CAS No	SARA 313 - Threshold Values %
sodium azide	26628-22-8	1.0
trisodium tetraoxovanadate	13721-39-6	1.0
magnesium nitrate	10377-60-3	1.0
copper dinitrate	3251-23-8	1.0

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)
maleic acid	5000 lb	Not Listed	Not Listed	Listed	Not Listed

CERCLA

Chemical name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
maleic acid	5000 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

Chemical name	New Jersey	Massachusetts	Pennsylvania
maleic acid	Listed	Listed	Listed
disodium hydrogenorthophosphate	Listed	Listed	Listed
tetrasodium pyrophosphate, decahydrate	Listed	Listed	Listed
sodium azide	Listed	Listed	Listed
trisodium tetraoxovanadate	Listed	Not Listed	Not Listed
magnesium nitrate	Listed	Listed	Listed
copper dinitrate	Listed	Listed	Listed

SECTION 16. Other information

Issuing Date: 2018-01-19 **Revision Date:** 2024-05-13

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