

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

**Issuing Date:** 2018-01-19 **Revision Date:** 2024-07-23 **Version:** 3

# **SECTION 1. Identification**

Product identifier

Product No 7930

Product name PathScan® Total Akt2 Sandwich ELISA Kit

**Kit Component** 56797: Akt Rabbit mAb Coated Microwells

13755: Akt2 Mouse Detection mAb

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

14621: Green Detection Antibody Diluent 2

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 (maleic acid)

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

**Identified uses** This product is intended for research purposes only.

Manufacturer, importer, supplier

Manufacturer address Cell Signaling Technology, Inc.

3 Trask Lane Danvers, MA 01923 United States TEL: +1 978 867 2300

FAX: +1 978 867 2400 www.cellsignal.com

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.

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

If skin irritation occurs: Get medical advice/attention

Take off contaminated clothing and wash before reuse

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

# 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		
tetrasodium pyrophosphate, decahydrate	13472-36-1	0.1-1

#### Kit Component 14621: Green Detection Antibody Diluent 2

Chemical name	CAS No	Weight-%	
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)		

Kit Component 56797: Akt Rabbit mAb Coated Microwells

13755: Akt2 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).

# Eye contact In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Skin contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. If skin irritation or rash occurs: Get medical advice/attention. Inhalation IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Ingestion 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. 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. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. 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 Carbon dioxide (CO<sub>2</sub>)

Foam Water spray Dry powder

#### 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

#### **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 Avoid contact with skin, eyes and clothing. Use personal protective equipment. Evacuate

personnel to safe areas. Keep people away from and upwind of spill/leak.

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

#### 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. Prevent product from entering drains.

#### 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. Clean contaminated surface thoroughly. Sweep up and shovel into suitable containers for disposal. Avoid dust formation.

#### •

# SECTION 7. Handling and storage

#### Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. 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

Metals, Strong oxidizing agents, strong acids, and strong bases

#### **SECTION 8. Exposure controls/personal protection**

#### Control parameters

Occupational exposure limit values			
Chemical name	NIOSH REL		
tetrasodium pyrophosphate, decahydrate -		-	TWA: 5 mg/m <sup>3</sup>
sodium azide Ceiling: 0.29 mg/m³ Ceiling: 0.11 ppm		-	Ceiling: 0.1 ppm
			Ceiling: 0.3 mg/m <sup>3</sup>

#### 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.

Lightweight protective clothing. Impervious gloves.

In case of inadequate ventilation wear respiratory protection.

Remove and wash contaminated clothing and gloves, including the inside, 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. 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 56797: Akt Rabbit mAb Coated Microwells

Physical state Solid

Appearance Microwell Plate

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

Physical state Solid

Appearance Powder, Lyophilized

Color Red

Kit Component 13755: Akt2 Mouse Detection mAb

Physical state Solid

Appearance Powder, Lyophilized

 Color
 Green

 pH
 7.4 (20 °C)

Kit Component 7002: STOP Solution

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

Kit Component 7004: TMB Substrate

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

Kit Component 9801: ELISA Wash Buffer (20X)

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

Kit Component 9803: Cell Lysis Buffer (10X)

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

Kit Component 11083: ELISA Sample Diluent

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

Kit Component 14621: Green Detection Antibody Diluent 2

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

Kit Component 13515: HRP Diluent

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

# **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.
None under normal processing.

#### **Conditions to Avoid**

Extremes of temperature and direct sunlight, Exposure to air or moisture over prolonged periods, 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**

Metals, Strong oxidizing agents, strong acids, and strong bases

#### **Hazardous Decomposition Products**

Thermal decomposition can lead to release of irritating and toxic 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**Inhalation
13755: Akt2 Mouse Detection mAb
May cause allergic respiratory reaction

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

Inhalation May cause allergic respiratory reaction

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 13515: HRP Diluent

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

#### Eye contact

Kit Component 13515: HRP Diluent

Eye contact Contact with eyes may cause irritation

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

Skin contact

Kit Component 13755: Akt2 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

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

**Ingestion** 

Kit Component 7002: STOP Solution

Ingestion Ingestion causes burns of the upper digestive and respiratory tract. Harmful if swallowed

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
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, 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. Symptoms of

overexposure may be headache, dizziness, tiredness, nausea and vomiting. 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

7002: STOP Solution

Causes burns

Kit Component

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

9801: ELISA Wash Buffer (20X)

Causes skin irritation

**Kit Component** 

9803: Cell Lysis Buffer (10X) Serious eye damage/eye irritation Irritating to eyes

#### Sensitization

**Kit Component** 

Respiratory Sensitization Skin Sensitization

13755: Akt2 Mouse Detection mAb

May cause allergy or asthma symptoms or breathing difficulties if inhaled

May cause skin sensitization

Kit Component

Respiratory Sensitization 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

Kit Component

Skin Sensitization

13515: HRP Diluent

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

Kit Component Skin Sensitization 9801: ELISA Wash Buffer (20X)

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

Kit Component Skin Sensitization 7002: STOP Solution

May cause skin sensitization

**Mutagenic effects** 

Kit Component Mutagenic effects 7002: STOP Solution

Not mutagenic in AMES Test

Carcinogenicity

No component of this product present at levels greater than or equal to 0.1% is identifiable

as probable, possible or confirmed carcinogen by IARC, ACGIH, NTP, or OSHA.

Reproductive toxicity

No information available.

**Systemic Target Organ Toxicity** 

(STOT)

**Kit Component** 7002: STOP Solution STOT - repeated exposure May cause damage to organs through prolonged or repeated exposure

STOT - single exposure Respiratory system

**Aspiration Hazard** No information available.

# **SECTION 12. Ecological information**

#### **Ecotoxicity**

Product Information Ecotoxicity

**Kit Component**Ecotoxicity **7002: STOP Solution**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
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 Component**Bioaccumulation

7002: STOP Solution
Not likely to bioaccumulate

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

Chemical name	Octanol-Water Partition Coefficient
maleic acid	0.32

#### **Mobility**

7002: STOP Solution **Kit Component** 

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**

Should not be released into the environment.

#### **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

UN3265 (maleic acid) **UN** number

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

Transport hazard class(es) Packing group

Ш

IATA

**UN** number UN3265

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

Transport hazard class(es) Packing group Ш

# **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
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**

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

Chemical name	CAS No	SARA 313 - Threshold Values %
trisodium tetraoxovanadate	13721-39-6	1.0
sodium azide	26628-22-8	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 Yes
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.

residents the component observation of the component of t				g roquironnonio.		
	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

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
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

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

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
disodium hydrogenorthophosphate	Listed	Listed	Listed
copper dinitrate	Listed	Listed	Listed

# **SECTION 16. Other information**

**Issuing Date:** 2018-01-19 **Revision Date:** 2024-07-23

**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**